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CALCULATED SYNCHROTRON RADIATION SPECTRA FOR NINA

by

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1. INTRODUCTION

A computer program has been written to calculate the synchrotron radiation spectra emitted by NINA. This paper presents the full details of the spectra including the polarised components and the specific spectra for the instruments in the Synchrotron Radiation Facility (S.R.F.).

The program was written to generate data for the S.R.F. users and for use in the investigation of the behaviour of a diamond crystal detector. [1] It differs from other such calculations in that it uses the correct, biased-sinusoidal variation of the electron energy during the acceleration process in NINA to compute spectra which are time-averaged over one second. The data is presented giving spectra for 1, 2, 3, 4 and 5 GeV operation of the synchrotron including the vertical distributions.

2. THE COMPUTER PROGRAM

The general theory of synchrotron radiation as stated by Schwinger[2] gives the power radiated by an electron per unit wavelength (centred at λ), per radian vertically, at a vertical elevation angle ψ as:-

$$P(\psi,\lambda) = \frac{3}{4\pi^2}\,\frac{e^2}{R}\left(\frac{\lambda_c}{\lambda}\right)^2\left(\frac{2\pi c}{\lambda^2}\right)\left(\frac{E}{m_0c^2}\right)^2\left[1+\left(\frac{E\psi}{m_0c^2}\right)^2\right]^2 \left[K_{2/3}^2(\epsilon) + \frac{(E\psi/m_0c^2)^2}{1+(E\psi/m_0c^2)^2}\cdot K_{1/3}^2(\epsilon)\right] \qquad (2.1)$$

where: $\epsilon = \frac{\lambda_c}{2\lambda}\left[1+\left(\frac{E\psi}{m_0c^2}\right)^2\right]^{3/2}$

- e = electronic charge in e.s.u.
- R = orbit radius in cm.
- λ = wavelength in cm.
- λ_c = "characteristic wavelength" in cm.
- c = velocity of light in $cm.s^{-1}$
- E = electron energy)
- m_0c^2 = electron rest-mass) in the same units
- ψ = elevation angle between direction of emission and orbit plane and $K_{1/3}$ and $K_{2/3}$ are Second Order Bessel Functions.

When eqn. (2.1) is translated into practical units it becomes:

$$N(\psi,\lambda,E) = \frac{8\pi R^2.e.10^7}{3h\lambda^2}\left(\frac{m_0c^2}{E}\right)^4\left(1+\left(\frac{E\psi}{m_0c^2}\right)^2\right)^2 \left[K_{2/3}^2(\epsilon) + \frac{(E\psi/m_0c^2)^2}{1+(E\psi/m_0c^2)^2}\cdot K_{1/3}^2(\epsilon)\right] \qquad (2.2)$$

where

$N(\psi,\lambda,E)$ = no. of photons per mA of circulating beam per mrad horizontally per mrad vertically per second emitted within a 0.1% bandwidth

and the units are as follows

- E, m_0c^2 - GeV
- ψ - Radians
- R - metres
- e - esu
- h - erg. sec (Planck's constant)
- λ - Å

This expression is the basis for the computation of the spectra which have been evaluated for a range of ψ and λ with maximum electron energies of 1, 2, 3, 4 and 5 GeV. The Bessel Functions were evaluated using series approximations as used by various other authors.[3-5]

The electron beam is injected into the synchrotron when the magnetic field is at a certain amplitude and the waveform of the field is such that $\frac{dB}{dt}$ is at a particular value at this time. These criteria make the variation of field with time different for different peak energies and the time at which injection occurs also varies. The above mentioned factors were taken into account in the program thus giving the correct variation of electron energy with time.

The instantaneous electron energy was calculated at increments of 0.2ms during the acceleration cycle from the time of injection to 11.0ms after minimum field; at which time the circulating electrons are normally

lost as the r.f. accelerating field is switched off.†

The synchrotron radiation spectra were then calculated at each of these points and integrated assuming step increases in energy at each time increment.

The wavelength range of the computed output covers the six decades from 0.1Å to 100,000Å with data points in each decade at five equal logaritnmic increments. The vertical distribution covers tne range from 0 to 10 mrad above the orbit plane, with 50 points between 0 and 1 mrad and from there upwards in steps of 0.1 mrad.

The intensity of tne parallel polarised component is given by expression (2.2) without the last term i.e.

$$N_{//}(\psi,\lambda,E) = \frac{8\pi R^2 e 10^7}{3h\lambda^2}\left(\frac{m_o c^2}{E}\right)^4\left(1+\left(\frac{E\psi}{m_o c^2}\right)^2\right)^2 \cdot K_{2/3}^2(\epsilon)$$

The matrices containing the spectra $(N,N_{//})$ were stored on magnetic disc on the IBM 370/165 computer and various other programs have been written to extract the data for this report.

3. LIMITATIONS OF THE PROGRAM

The program is described in detail elsewhere [6] and only a brief discussion follows. The largest sources of error were the series approximations used in the evaluation of the Bessel Functions. The series approximation for small arguments is good for $\epsilon < 1$ as is the large argument approximation for $\epsilon > 10$, but in the region of overlap there is some error. Investigation has shown that these errors (of the order of a few percent over a limited range) give rise to similar errors in the spectrum on the sharply rising edge at short wavelengths. The errors are only observable in a region where the intensity is several orders of magnitude down from the peak.

† When the S.R.F. is the main user of NINA the duty cycle is sometimes extended by switching the r.f. off later at 15ms after minimum field.

Another minor source of error was the way in which the integration over the acceleration cycle was done. In this, as in the integrations over vertical angles during analysis of the spectrum matrices, the integration was performed numerically at zero order with small step sizes chosen. The overall effect of these errors is very small, certainly very much less than the variations in the synchrotron which give rise to variations in intensity, orbit radius and electron energy.

4. RESULTS

The data is presented both graphically and in tabular form. Figures 1 and 2 show the synchrotron radiation spectrum integrated over all vertical angles for 1, 2, 3, 4 and 5 GeV operation of the synchrotron plotted against wavelength and energy.

Figures 3 to 7 show angular distributions of various wavelengths for each of the chosen energies. Figures 8 to 16 show angular distributions of the polarised components at various wavelengths for 3, 4 and 5 GeV operation.

Figure 17 is a plan of the Synchrotron Radiation Facility showing the location of the instruments within that building. The remaining graphs (figs. 18 to 27) show the spectra defined by the aperture of each of the instruments.

Table 1 lists the location and apertures of the S.R.F. instruments and the remaining tables contain the data for the corresponding graphs (Table 2 refers to both fig.1 and fig.2).

REFERENCES

1. J. POOLE. Use Of A Diamond Crystal Detector In Synchrotron Radiation. To be published.

2. J. SCHWINGER. Phys. Rev. 75, (1949) 1912

3. R.A. MACK. CEA Report CEAL-1027 (1966)

4. J. LANG. S.R.C. Astrophysics Research Unit Report ARU-1 (1969)

5. G.N. WATSON. A Treatise on the Theory of Bessel Functions (Cambridge University Press, 1966)

6. J. POOLE. A Program for the Calculation of the NINA Synchrotron Radiation Spectrum. To be published.

TABLE CAPTIONS

The data is expressed in the following units:

Table 2 Photons/s/mA beam/mrad horizontally within a 0.1% bandwidth.
Tables 3 to 16 Photons/s/mA beam/mrad horizontally/mrad vertically within a 0.1% bandwidth.
Tables 17 to 26 Photons/s/mA beam within a 0.1% bandwidth.

Table 1 Location and apertures of instruments in the S.R.F.
Table 2 Spectra for total vertical acceptance
Table 3 Angular distributions for 1.0 GeV operation
Table 4 Angular distributions for 2.0 GeV operation
Table 5 Angular distributions for 3.0 GeV operation
Table 6 Angular distributions for 4.0 GeV operation
Table 7 Angular distributions for 5.0 GeV operation
Table 8 Angular distribution of polarised components at 10Å for 3.0 GeV operation
Table 9 Angular distribution of polarised components at 100Å for 3.0 GeV operation
Table 10 Angular distribution of polarised components at 1000Å for 3.0 GeV operation
Table 11 Angular distribution of polarised components at 10Å for 4.0 GeV operation
Table 12 Angular distribution of polarised components at 100Å for 4.0 GeV operation
Table 13 Angular distribution of polarised components at 1000Å for 4.0 GeV operation
Table 14 Angular distribution of polarised components at 10Å for 5.0 GeV operation
Table 15 Angular distribution of polarised components at 100Å for 5.0 GeV operation
Table 16 Angular distribution of polarised components at 1000Å for 5.0 GeV operation
Table 17 Spectra for Horizontal Wadsworth (N1)
Table 18 Spectra for Mirror Box (N2)
Table 19 Spectra for Horizontal Wadsworth 2 (N3)
Table 20 Spectra for Mirror Box 2 (N4)

INSTRUMENTS: S.R.F.

NORTH LINE

Instrument	Tangent point distance (m)	Aperture (vertical height x horizontal width) (mm)	Angle Subtended at the Tangent Point (height x width) (mrad)
Horizontal Wadsworth 1 (N1)	34.412	32 x 50	0.930 x 1.45
Mirror Box 1 (N2)	35.471	60 x 15	1.69 x 0.423
Horizontal 1 Wadsworth 2 (N3)	39.152	25 x 35	0.639 x 0.894
Mirror Box 2 (N4)	40.362	60 x 15	1.49 x 0.372
Mirror Box 3 (Seya-N5)	42.202	50 x 15	1.18 x 0.355
Grazing Incidence (N6)	42.925	2 x 20	0.0466 x 0.466

SOUTH LINE

Normal Incidence (NPL) (S1)	32.4	60 x 60	1.85 x 1.85
Vertical Wadsworth (S2)	44.35	50 x 32	1.13 x 0.722
X-ray window (MRC) (S3)	46.732	2 x 40	0.043 x 0.856
X-ray window (crystal monochromator) (S4)	46.656	35 x 35	0.750 x 0.750

All heights shown are symmetrical about beam

Table 1

SYNCHROTRON RADIATION SPECTRA FOR TOTAL VERTICAL ACCEPTANCE WITH THE SYNCHROTRON OPERATING AT 1,2,3,4+5GEV

SPECTRA ARE LISTED AT LOGARITHMIC INCREMENTS OF1/10TH OF A DECADE FROM 0.1 TO 100,000 ANGSTROMS
IN UNITS OF PHOTONS/MRAD HORIZ/MA BEAM/SEC INTO A 0.1% BANDWIDTH

1.0GEV

0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.9577E-03	0.6532E+00	0.7538E+02	0.3251E+04
0.6689E+05	0.8043E+06	0.5475E+07	0.2484E+08	0.8231E+08	0.2126E+09	0.4501E+09	0.8134E+09	0.1296E+10	0.1866E+10
0.2481E+10	0.3094E+10	0.3667E+10	0.4171E+10	0.4589E+10	0.4910E+10	0.5122E+10	0.5217E+10	0.5192E+10	0.5054E+10
0.4820E+10	0.4512E+10	0.4159E+10	0.3787E+10	0.3416E+10	0.3060E+10	0.2725E+10	0.2416E+10	0.2134E+10	0.1880E+10
0.1654E+10	0.1453E+10	0.1275E+10	0.1120E+10	0.9832E+09	0.8640E+09	0.7599E+09	0.6690E+09	0.5898E+09	0.5205E+09
0.4602E+09									

2.0GEV

0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2868E-02	0.1808E+01	0.2016E+03
0.8462E+04	0.1711E+06	0.2012E+07	0.1344E+08	0.6001E+08	0.1960E+09	0.4995E+09	0.1046E+10	0.1872E+10	0.2960E+10
0.4240E+10	0.5615E+10	0.6984E+10	0.8264E+10	0.9394E+10	0.1034E+11	0.1109E+11	0.1164E+11	0.1201E+11	0.1221E+11
0.1227E+11	0.1220E+11	0.1204E+11	0.1179E+11	0.1148E+11	0.1108E+11	0.1060E+11	0.1002E+11	0.9354E+10	0.8617E+10
0.7838E+10	0.7050E+10	0.6283E+10	0.5562E+10	0.4901E+10	0.4306E+10	0.3775E+10	0.3305E+10	0.2891E+10	0.2529E+10
0.2212E+10	0.1935E+10	0.1694E+10	0.1483E+10	0.1301E+10	0.1141E+10	0.1003E+10	0.8823E+09	0.7773E+09	0.6858E+09
0.6060E+09									

3.0GEV

0.0	0.0	0.4315E-01	0.1191E+02	0.9843E+03	0.3254E+05	0.5718E+06	0.5596E+07	0.3292E+08	0.1333E+09
0.4029E+09	0.9658E+09	0.1925E+10	0.3316E+10	0.5084E+10	0.7108E+10	0.9234E+10	0.1131E+11	0.1323E+11	0.1490E+11
0.1627E+11	0.1735E+11	0.1813E+11	0.1863E+11	0.1889E+11	0.1894E+11	0.1880E+11	0.1852E+11	0.1812E+11	0.1763E+11
0.1706E+11	0.1644E+11	0.1579E+11	0.1511E+11	0.1441E+11	0.1367E+11	0.1286E+11	0.1199E+11	0.1105E+11	0.1006E+11
0.9058E+10	0.8074E+10	0.7140E+10	0.6278E+10	0.5500E+10	0.4807E+10	0.4196E+10	0.3658E+10	0.3188E+10	0.2777E+10
0.2420E+10	0.2111E+10	0.1842E+10	0.1610E+10	0.1408E+10	0.1234E+10	0.1083E+10	0.9513E+09	0.8372E+09	0.7381E+09
0.6518E+09									

4.0GEV

0.4802E+03	0.1961E+05	0.3906E+06	0.4489E+07	0.2952E+08	0.1301E+09	0.4205E+09	0.1063E+10	0.2210E+10	0.3936E+10
0.6199E+10	0.8852E+10	0.1170E+11	0.1453E+11	0.1717E+11	0.1951E+11	0.2147E+11	0.2302E+11	0.2417E+11	0.2494E+11
0.2538E+11	0.2552E+11	0.2540E+11	0.2508E+11	0.2458E+11	0.2395E+11	0.2322E+11	0.2240E+11	0.2154E+11	0.2063E+11
0.1970E+11	0.1877E+11	0.1785E+11	0.1693E+11	0.1602E+11	0.1508E+11	0.1410E+11	0.1306E+11	0.1197E+11	0.1085E+11
0.9722E+10	0.8631E+10	0.7605E+10	0.6666E+10	0.5824E+10	0.5079E+10	0.4424E+10	0.3851E+10	0.3351E+10	0.2916E+10
0.2539E+10	0.2212E+10	0.1930E+10	0.1685E+10	0.1474E+10	0.1291E+10	0.1132E+10	0.9947E+09	0.8754E+09	0.7716E+09
0.6812E+09									

5.0GEV

0.4622E+07	0.3173E+08	0.1445E+09	0.4790E+09	0.1235E+10	0.2611E+10	0.4709E+10	0.7492E+10	0.1079E+11	0.1434E+11
0.1791E+11	0.2125E+11	0.2423E+11	0.2674E+11	0.2874E+11	0.3023E+11	0.3125E+11	0.3183E+11	0.3204E+11	0.3193E+11
0.3155E+11	0.3095E+11	0.3018E+11	0.2927E+11	0.2826E+11	0.2718E+11	0.2605E+11	0.2489E+11	0.2372E+11	0.2255E+11
0.2140E+11	0.2026E+11	0.1916E+11	0.1810E+11	0.1705E+11	0.1599E+11	0.1490E+11	0.1376E+11	0.1257E+11	0.1135E+11
0.1015E+11	0.8989E+10	0.7904E+10	0.6915E+10	0.6032E+10	0.5254E+10	0.4571E+10	0.3976E+10	0.3459E+10	0.3011E+10
0.2624E+10	0.2288E+10	0.1998E+10	0.1747E+10	0.1529E+10	0.1340E+10	0.1176E+10	0.1034E+10	0.9104E+09	0.8028E+09
0.7091E+09									

Table 2

ANGULAR DISTRUBUTION OF SYNCHROTRON RADIATION WITH THE SYNCHROTRON OPERATING AT 1.0GEV

THE SPECTRA ARE LISTED AT INCREMENTS OF 0.02MRADS FROM ZERO TO 1 MRAD
IN UNITS OF PHOTONS/MA BEAM/MRAD HORIZ/MRAD VERT/SEC. IN A 0.1% BANDWIDTH

VERTICAL DISTRIBUTION OF 1 ANGSTROM PHOTONS

0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0									

VERTICAL DISTRIBUTION OF 10 ANGSTROM PHOTONS

0.3090E+06	0.3010E+06	0.2778E+06	0.2425E+06	0.2007E+06	0.1568E+06	0.1168E+06	0.8365E+05	0.5659E+05	0.3609E+05
0.2165E+05	0.1219E+05	0.6422E+04	0.3158E+04	0.1445E+04	0.6137E+03	0.2411E+03	0.8735E+02	0.2909E+02	0.8875E+01
0.2473E+01	0.6266E+00	0.1436E+00	0.2830E-01	0.9270E-03	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0									

VERTICAL DISTRIBUTION OF 100 ANGSTROM PHOTONS

0.3355E+10	0.3350E+10	0.3336E+10	0.3311E+10	0.3277E+10	0.3232E+10	0.3176E+10	0.3110E+10	0.3032E+10	0.2942E+10
0.2841E+10	0.2730E+10	0.2608E+10	0.2476E+10	0.2335E+10	0.2188E+10	0.2034E+10	0.1877E+10	0.1718E+10	0.1558E+10
0.1401E+10	0.1248E+10	0.1100E+10	0.9606E+09	0.8296E+09	0.7086E+09	0.5983E+09	0.4992E+09	0.4115E+09	0.3349E+09
0.2691E+09	0.2133E+09	0.1668E+09	0.1285E+09	0.9763E+08	0.7306E+08	0.5383E+08	0.3905E+08	0.2787E+08	0.1956E+08
0.1350E+08	0.9156E+07	0.6099E+07	0.3989E+07	0.2560E+07	0.1612E+07	0.9938E+06	0.5998E+06	0.3531E+06	0.2011E+06
0.1082E+06									

VERTICAL DISTRIBUTION OF 1000 ANGSTROM PHOTONS

0.2413E+10	0.2414E+10	0.2415E+10	0.2417E+10	0.2420E+10	0.2424E+10	0.2429E+10	0.2434E+10	0.2440E+10	0.2447E+10
0.2453E+10	0.2460E+10	0.2467E+10	0.2474E+10	0.2481E+10	0.2487E+10	0.2492E+10	0.2497E+10	0.2501E+10	0.2503E+10
0.2505E+10	0.2504E+10	0.2502E+10	0.2499E+10	0.2493E+10	0.2485E+10	0.2475E+10	0.2462E+10	0.2447E+10	0.2429E+10
0.2408E+10	0.2384E+10	0.2358E+10	0.2329E+10	0.2296E+10	0.2261E+10	0.2223E+10	0.2182E+10	0.2138E+10	0.2092E+10
0.2043E+10	0.1992E+10	0.1938E+10	0.1882E+10	0.1825E+10	0.1765E+10	0.1704E+10	0.1642E+10	0.1578E+10	0.1514E+10
0.1450E+10									

VERTICAL DISTRIBUTION OF 10000 ANGSTROM PHOTONS

0.6493E+09	0.6494E+09	0.6496E+09	0.6499E+09	0.6503E+09	0.6508E+09	0.6515E+09	0.6522E+09	0.6531E+09	0.6541E+09
0.6552E+09	0.6564E+09	0.6577E+09	0.6591E+09	0.6606E+09	0.6622E+09	0.6639E+09	0.6656E+09	0.6675E+09	0.6694E+09
0.6714E+09	0.6735E+09	0.6757E+09	0.6779E+09	0.6802E+09	0.6825E+09	0.6849E+09	0.6873E+09	0.6897E+09	0.6922E+09
0.6947E+09	0.6972E+09	0.6998E+09	0.7023E+09	0.7048E+09	0.7074E+09	0.7099E+09	0.7124E+09	0.7148E+09	0.7172E+09
0.7196E+09	0.7220E+09	0.7242E+09	0.7265E+09	0.7286E+09	0.7307E+09	0.7327E+09	0.7345E+09	0.7363E+09	0.7380E+09
0.7396E+09									

Table 3

ANGULAR DISTRUBUTION OF SYNCHROTRON RADIATION WITH THE SYNCHROTRON OPERATING AT 2.0GEV

THE SPECTRA ARE LISTED AT INCREMENTS OF 0.02MRADS FROM ZERO TO 1 MRAD
IN UNITS OF PHOTONS/MA BEAM/MRAD HORIZ/MRAD VERT/SEC. IN A 0.1% BANDWIDTH

VERTICAL DISTRIBUTION OF 1 ANGSTROM PHOTONS

0.8538E+05 0.7533E+05 0.5157E+05 0.2714E+05 0.1082E+05 0.3206E+04 0.6899E+03 0.1051E+03 0.1100E+02 0.7600E+00
0.1902E-01 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0

VERTICAL DISTRIBUTION OF 10 ANGSTROM PHOTONS

0.1287E+11 0.1276E+11 0.1245E+11 0.1192E+11 0.1118E+11 0.1024E+11 0.9121E+10 0.7875E+10 0.6562E+10 0.5257E+10
0.4032E+10 0.2950E+10 0.2050E+10 0.1348E+10 0.8359E+09 0.4866E+09 0.2649E+09 0.1344E+09 0.6325E+08 0.2751E+08
0.1101E+08 0.4024E+07 0.1326E+07 0.3617E+06 0.1015E+06 0.2567E+05 0.5834E+04 0.1186E+04 0.2149E+03 0.3456E+02
0.4913E+01 0.6138E+00 0.6541E-01 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0

VERTICAL DISTRIBUTION OF 100 ANGSTROM PHOTONS

0.1223E+11 0.1224E+11 0.1226E+11 0.1230E+11 0.1235E+11 0.1240E+11 0.1245E+11 0.1250E+11 0.1252E+11 0.1252E+11
0.1249E+11 0.1241E+11 0.1229E+11 0.1211E+11 0.1186E+11 0.1156E+11 0.1119E+11 0.1075E+11 0.1026E+11 0.9707E+10
0.9108E+10 0.8468E+10 0.7800E+10 0.7114E+10 0.6421E+10 0.5734E+10 0.5063E+10 0.4420E+10 0.3812E+10 0.3247E+10
0.2731E+10 0.2267E+10 0.1856E+10 0.1498E+10 0.1193E+10 0.9352E+09 0.7224E+09 0.5493E+09 0.4111E+09 0.3027E+09
0.2191E+09 0.1559E+09 0.1090E+09 0.7488E+08 0.5049E+08 0.3341E+08 0.2168E+08 0.1380E+08 0.8608E+07 0.5259E+07
0.3145E+07

VERTICAL DISTRIBUTION OF 1000 ANGSTROM PHOTONS

0.3544E+10 0.3545E+10 0.3550E+10 0.3556E+10 0.3566E+10 0.3578E+10 0.3592E+10 0.3609E+10 0.3627E+10 0.3648E+10
0.3670E+10 0.3694E+10 0.3719E+10 0.3744E+10 0.3771E+10 0.3797E+10 0.3824E+10 0.3850E+10 0.3875E+10 0.3899E+10
0.3922E+10 0.3942E+10 0.3961E+10 0.3977E+10 0.3990E+10 0.4000E+10 0.4006E+10 0.4009E+10 0.4007E+10 0.4001E+10
0.3990E+10 0.3974E+10 0.3953E+10 0.3926E+10 0.3895E+10 0.3857E+10 0.3815E+10 0.3766E+10 0.3713E+10 0.3653E+10
0.3588E+10 0.3519E+10 0.3444E+10 0.3364E+10 0.3280E+10 0.3191E+10 0.3099E+10 0.3002E+10 0.2903E+10 0.2801E+10
0.2697E+10

VERTICAL DISTRIBUTION OF 10000 ANGSTROM PHOTONS

0.8545E+09 0.8546E+09 0.8549E+09 0.8553E+09 0.8559E+09 0.8567E+09 0.8577E+09 0.8589E+09 0.8602E+09 0.8617E+09
0.8633E+09 0.8651E+09 0.8671E+09 0.8692E+09 0.8715E+09 0.8739E+09 0.8764E+09 0.8791E+09 0.8820E+09 0.8849E+09
0.8880E+09 0.8912E+09 0.8945E+09 0.8979E+09 0.9014E+09 0.9049E+09 0.9086E+09 0.9123E+09 0.9161E+09 0.9199E+09
0.9238E+09 0.9277E+09 0.9317E+09 0.9357E+09 0.9397E+09 0.9437E+09 0.9477E+09 0.9516E+09 0.9556E+09 0.9595E+09
0.9633E+09 0.9672E+09 0.9709E+09 0.9746E+09 0.9782E+09 0.9816E+09 0.9850E+09 0.9883E+09 0.9915E+09 0.9945E+09
0.9973E+09

Table 4

ANGULAR DISTRUBUTION OF SYNCHROTRON RADIATION WITH THE SYNCHROTRON OPERATING AT 3.0GEV

THE SPECTRA ARE LISTED AT INCREMENTS OF 0.02MRADS FROM ZERO TO 1 MRAD
IN UNITS OF PHOTONS/MA BEAM/MRAD HORIZ/MRAD VERT/SEC. IN A 0.1% BANDWIDTH

VERTICAL DISTRIBUTION OF 1 ANGSTROM PHOTONS

0.3251E+10 0.3017E+10 0.2396E+10 0.1601E+10 0.8794E+09 0.3851E+09 0.1302E+09 0.3275E+08 0.5807E+07 0.6612E+06
0.5727E+05 0.3189E+04 0.1099E+03 0.2251E+01 0.0 0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0

VERTICAL DISTRIBUTION OF 10 ANGSTROM PHOTONS

0.4009E+11 0.4004E+11 0.3985E+11 0.3942E+11 0.3858E+11 0.3718E+11 0.3510E+11 0.3227E+11 0.2876E+11 0.2471E+11
0.2038E+11 0.1607E+11 0.1206E+11 0.8573E+10 0.5753E+10 0.3630E+10 0.2145E+10 0.1182E+10 0.6052E+09 0.2867E+09
0.1252E+09 0.5014E+08 0.1835E+08 0.6096E+07 0.1815E+07 0.4408E+06 0.1098E+06 0.2448E+05 0.4862E+04 0.8573E+03
0.1337E+03 0.1835E+02 0.2209E+01 0.2308E+00 0.6099E-02 0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0

VERTICAL DISTRIBUTION OF 100 ANGSTROM PHOTONS

0.1543E+11 0.1545E+11 0.1552E+11 0.1562E+11 0.1575E+11 0.1591E+11 0.1608E+11 0.1625E+11 0.1642E+11 0.1656E+11
0.1667E+11 0.1672E+11 0.1671E+11 0.1663E+11 0.1646E+11 0.1620E+11 0.1584E+11 0.1537E+11 0.1482E+11 0.1416E+11
0.1342E+11 0.1261E+11 0.1173E+11 0.1080E+11 0.9849E+10 0.8883E+10 0.7923E+10 0.6985E+10 0.6084E+10 0.5234E+10
0.4446E+10 0.3727E+10 0.3082E+10 0.2513E+10 0.2020E+10 0.1600E+10 0.1248E+10 0.9583E+09 0.7243E+09 0.5385E+09
0.3937E+09 0.2830E+09 0.1998E+09 0.1386E+09 0.9437E+08 0.6306E+08 0.4134E+08 0.2657E+08 0.1674E+08 0.1033E+08
0.6245E+07

VERTICAL DISTRIBUTION OF 1000 ANGSTROM PHOTONS

0.3983E+10 0.3984E+10 0.3990E+10 0.3998E+10 0.4011E+10 0.4026E+10 0.4044E+10 0.4066E+10 0.4090E+10 0.4117E+10
0.4146E+10 0.4177E+10 0.4209E+10 0.4243E+10 0.4278E+10 0.4313E+10 0.4349E+10 0.4385E+10 0.4419E+10 0.4453E+10
0.4485E+10 0.4515E+10 0.4543E+10 0.4568E+10 0.4590E+10 0.4608E+10 0.4623E+10 0.4632E+10 0.4637E+10 0.4637E+10
0.4631E+10 0.4619E+10 0.4601E+10 0.4578E+10 0.4547E+10 0.4510E+10 0.4467E+10 0.4417E+10 0.4360E+10 0.4296E+10
0.4226E+10 0.4150E+10 0.4067E+10 0.3979E+10 0.3884E+10 0.3785E+10 0.3680E+10 0.3571E+10 0.3458E+10 0.3340E+10
0.3220E+10

VERTICAL DISTRIBUTION OF 10000 ANGSTROM PHOTONS

0.9294E+09 0.9295E+09 0.9298E+09 0.9303E+09 0.9310E+09 0.9319E+09 0.9330E+09 0.9343E+09 0.9358E+09 0.9375E+09
0.9394E+09 0.9415E+09 0.9437E+09 0.9461E+09 0.9487E+09 0.9515E+09 0.9544E+09 0.9575E+09 0.9608E+09 0.9642E+09
0.9677E+09 0.9713E+09 0.9751E+09 0.9790E+09 0.9830E+09 0.9871E+09 0.9914E+09 0.9956E+09 0.1000E+10 0.1004E+10
0.1009E+10 0.1013E+10 0.1018E+10 0.1023E+10 0.1027E+10 0.1032E+10 0.1037E+10 0.1041E+10 0.1046E+10 0.1050E+10
0.1055E+10 0.1059E+10 0.1064E+10 0.1068E+10 0.1072E+10 0.1076E+10 0.1080E+10 0.1084E+10 0.1088E+10 0.1092E+10
0.1095E+10

Table 5

ANGULAR DISTRUBUTION OF SYNCHROTRON RADIATION WITH THE SYNCHROTRON OPERATING AT 4.0GEV

THE SPECTRA ARE LISTED AT INCREMENTS OF 0.02MRADS FROM ZERO TO 1 MRAD
IN UNITS OF PHOTONS/MA BEAM/MRAD HORIZ/MRAD VERT/SEC. IN A 0.1% BANDWIDTH

VERTICAL DISTRIBUTION OF 1 ANGSTROM PHOTONS

0.4227E+11 0.4040E+11 0.3493E+11 0.2662E+11 0.1727E+11 0.9186E+10 0.3853E+10 0.1227E+10 0.2856E+09 0.4659E+08
0.4980E+07 0.3282E+06 0.1509E+05 0.4151E+03 0.6555E+01 0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0

VERTICAL DISTRIBUTION OF 10 ANGSTROM PHOTONS

0.5591E+11 0.5604E+11 0.5636E+11 0.5665E+11 0.5662E+11 0.5591E+11 0.5419E+11 0.5125E+11 0.4701E+11 0.4161E+11
0.3538E+11 0.2875E+11 0.2224E+11 0.1631E+11 0.1129E+11 0.7352E+10 0.4483E+10 0.2550E+10 0.1347E+10 0.6591E+09
0.2971E+09 0.1229E+09 0.4651E+08 0.1600E+08 0.4973E+07 0.1365E+07 0.3142E+06 0.7244E+05 0.1488E+05 0.2714E+04
0.4376E+03 0.6213E+02 0.7736E+01 0.8396E+00 0.7599E-01 0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0

VERTICAL DISTRIBUTION OF 100 ANGSTROM PHOTONS

0.1706E+11 0.1709E+11 0.1718E+11 0.1731E+11 0.1750E+11 0.1772E+11 0.1796E+11 0.1822E+11 0.1847E+11 0.1870E+11
0.1889E+11 0.1903E+11 0.1910E+11 0.1908E+11 0.1897E+11 0.1874E+11 0.1840E+11 0.1794E+11 0.1736E+11 0.1666E+11
0.1586E+11 0.1496E+11 0.1397E+11 0.1292E+11 0.1183E+11 0.1071E+11 0.9590E+10 0.8488E+10 0.7423E+10 0.6411E+10
0.5467E+10 0.4600E+10 0.3819E+10 0.3126E+10 0.2522E+10 0.2005E+10 0.1570E+10 0.1210E+10 0.9183E+09 0.6853E+09
0.5030E+09 0.3628E+09 0.2572E+09 0.1791E+09 0.1224E+09 0.8209E+08 0.5402E+08 0.3485E+08 0.2204E+08 0.1366E+08
0.8284E+07

VERTICAL DISTRIBUTION OF 1000 ANGSTROM PHOTONS

0.4220E+10 0.4222E+10 0.4228E+10 0.4237E+10 0.4251E+10 0.4268E+10 0.4289E+10 0.4313E+10 0.4340E+10 0.4371E+10
0.4403E+10 0.4438E+10 0.4475E+10 0.4513E+10 0.4553E+10 0.4593E+10 0.4634E+10 0.4675E+10 0.4715E+10 0.4754E+10
0.4791E+10 0.4827E+10 0.4860E+10 0.4890E+10 0.4916E+10 0.4939E+10 0.4958E+10 0.4971E+10 0.4980E+10 0.4983E+10
0.4980E+10 0.4971E+10 0.4955E+10 0.4932E+10 0.4903E+10 0.4866E+10 0.4823E+10 0.4772E+10 0.4713E+10 0.4647E+10
0.4575E+10 0.4495E+10 0.4408E+10 0.4315E+10 0.4215E+10 0.4109E+10 0.3998E+10 0.3882E+10 0.3761E+10 0.3636E+10
0.3507E+10

VERTICAL DISTRIBUTION OF 10000 ANGSTROM PHOTONS

0.9724E+09 0.9726E+09 0.9729E+09 0.9734E+09 0.9742E+09 0.9752E+09 0.9763E+09 0.9777E+09 0.9793E+09 0.9811E+09
0.9832E+09 0.9854E+09 0.9878E+09 0.9903E+09 0.9931E+09 0.9961E+09 0.9992E+09 0.1003E+10 0.1006E+10 0.1010E+10
0.1013E+10 0.1017E+10 0.1021E+10 0.1025E+10 0.1030E+10 0.1034E+10 0.1039E+10 0.1043E+10 0.1048E+10 0.1053E+10
0.1057E+10 0.1062E+10 0.1067E+10 0.1072E+10 0.1077E+10 0.1082E+10 0.1087E+10 0.1092E+10 0.1097E+10 0.1102E+10
0.1107E+10 0.1111E+10 0.1116E+10 0.1121E+10 0.1125E+10 0.1130E+10 0.1134E+10 0.1138E+10 0.1142E+10 0.1146E+10
0.1150E+10

Table 6

ANGULAR DISTRUBUTION OF SYNCHROTRON RADIATION WITH THE SYNCHROTRON OPERATING AT 5.0GEV

THE SPECTRA ARE LISTED AT INCREMENTS OF 0.02MRADS FROM ZERO TO 1 MRAD
IN UNITS OF PHOTONS/MA BEAM/MRAD HORIZ/MRAD VERT/SEC. IN A 0.1% BANDWIDTH

VERTICAL DISTRIBUTION OF 1 ANGSTROM PHOTONS

0.1078E+12	0.1051E+12	0.9592E+11	0.7920E+11	0.5663E+11	0.3357E+11	0.1582E+11	0.5695E+10	0.1505E+10	0.2808E+09
0.3540E+08	0.2542E+07	0.1350E+06	0.4292E+04	0.7846E+02	0.7840E+00	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0									

VERTICAL DISTRIBUTION OF 10 ANGSTROM PHOTONS

0.6511E+11	0.6540E+11	0.6617E+11	0.6715E+11	0.6790E+11	0.6796E+11	0.6683E+11	0.6415E+11	0.5976E+11	0.5372E+11
0.4638E+11	0.3828E+11	0.3007E+11	0.2240E+11	0.1575E+11	0.1041E+11	0.6447E+10	0.3724E+10	0.1999E+10	0.9929E+09
0.4546E+09	0.1911E+09	0.7343E+08	0.2568E+08	0.8124E+07	0.2294E+07	0.5257E+06	0.1232E+06	0.2572E+05	0.4767E+04
0.7809E+03	0.1127E+03	0.1425E+02	0.1574E+01	0.1489E+00	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0									

VERTICAL DISTRIBUTION OF 100 ANGSTROM PHOTONS

0.1808E+11	0.1812E+11	0.1822E+11	0.1838E+11	0.1859E+11	0.1885E+11	0.1915E+11	0.1945E+11	0.1976E+11	0.2005E+11
0.2030E+11	0.2050E+11	0.2062E+11	0.2065E+11	0.2057E+11	0.2037E+11	0.2005E+11	0.1959E+11	0.1900E+11	0.1827E+11
0.1743E+11	0.1647E+11	0.1542E+11	0.1429E+11	0.1311E+11	0.1189E+11	0.1067E+11	0.9465E+10	0.8294E+10	0.7178E+10
0.6133E+10	0.5171E+10	0.4301E+10	0.3528E+10	0.2852E+10	0.2272E+10	0.1782E+10	0.1377E+10	0.1046E+10	0.7825E+09
0.5754E+09	0.4159E+09	0.2954E+09	0.2060E+09	0.1411E+09	0.9481E+08	0.6250E+08	0.4040E+08	0.2560E+08	0.1589E+08
0.9659E+07									

VERTICAL DISTRIBUTION OF 1000 ANGSTROM PHOTONS

0.4372E+10	0.4374E+10	0.4381E+10	0.4391E+10	0.4406E+10	0.4424E+10	0.4447E+10	0.4472E+10	0.4502E+10	0.4534E+10
0.4569E+10	0.4606E+10	0.4646E+10	0.4687E+10	0.4730E+10	0.4774E+10	0.4817E+10	0.4861E+10	0.4905E+10	0.4947E+10
0.4988E+10	0.5027E+10	0.5063E+10	0.5097E+10	0.5126E+10	0.5152E+10	0.5173E+10	0.5190E+10	0.5200E+10	0.5206E+10
0.5204E+10	0.5197E+10	0.5182E+10	0.5161E+10	0.5132E+10	0.5096E+10	0.5052E+10	0.5000E+10	0.4940E+10	0.4873E+10
0.4799E+10	0.4717E+10	0.4627E+10	0.4531E+10	0.4428E+10	0.4318E+10	0.4203E+10	0.4082E+10	0.3956E+10	0.3826E+10
0.3692E+10									

VERTICAL DISTRIBUTION OF 10000 ANGSTROM PHOTONS

0.1004E+10	0.1004E+10	0.1005E+10	0.1005E+10	0.1006E+10	0.1007E+10	0.1008E+10	0.1010E+10	0.1011E+10	0.1013E+10
0.1015E+10	0.1018E+10	0.1020E+10	0.1023E+10	0.1026E+10	0.1029E+10	0.1032E+10	0.1035E+10	0.1039E+10	0.1043E+10
0.1047E+10	0.1051E+10	0.1055E+10	0.1059E+10	0.1064E+10	0.1068E+10	0.1073E+10	0.1078E+10	0.1083E+10	0.1087E+10
0.1092E+10	0.1097E+10	0.1103E+10	0.1108E+10	0.1113E+10	0.1118E+10	0.1123E+10	0.1128E+10	0.1133E+10	0.1138E+10
0.1144E+10	0.1149E+10	0.1153E+10	0.1158E+10	0.1163E+10	0.1168E+10	0.1172E+10	0.1177E+10	0.1181E+10	0.1185E+10
0.1189E+10									

Table 7

ANGULAR DISTRIBUTION OF POLARISED COMPONENTS OF SYNCHROTRON RADIATION AT 10ANGSTROMS FROM 3.0GEV ELECTRONS

THE SPECTRA ARE LISTED AT INCREMENTS OF 0.02MRAD FROM 0.0 TO 1.0MRAD
IN UNITS OF PHOTONS/MA BEAM/MRAD HORIZ/MRAD VERT/SEC IN A 0.1% BANDWIDTH

TOTAL INTENSITY OF PHOTONS

0.4009E+11	0.4004E+11	0.3985E+11	0.3942E+11	0.3858E+11	0.3718E+11	0.3510E+11	0.3227E+11	0.2876E+11	0.2471E+11
0.2038E+11	0.1607E+11	0.1206E+11	0.8573E+10	0.5753E+10	0.3630E+10	0.2145E+10	0.1182E+10	0.6052E+09	0.2867E+09
0.1252E+09	0.5014E+08	0.1835E+08	0.6096E+07	0.1815E+07	0.4408E+06	0.1098E+06	0.2448E+05	0.4862E+04	0.8573E+03
0.1337E+03	0.1835E+02	0.2209E+01	0.2308E+00	0.6099E-02	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0									

INTENSITY OF PARALLEL POLARISED PHOTONS

0.4009E+11	0.3979E+11	0.3887E+11	0.3736E+11	0.3525E+11	0.3258E+11	0.2942E+11	0.2586E+11	0.2206E+11	0.1819E+11
0.1444E+11	0.1099E+11	0.7989E+10	0.5521E+10	0.3613E+10	0.2229E+10	0.1291E+10	0.6989E+09	0.3522E+09	0.1645E+09
0.7092E+08	0.2807E+08	0.1014E+08	0.3303E+07	0.9429E+06	0.2365E+06	0.5861E+05	0.1300E+05	0.2572E+04	0.4518E+03
0.7019E+02	0.9606E+01	0.1153E+01	0.1201E+00	0.3159E-02	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0									

INTENSITY OF PERPENDICULARLY POLARISED PHOTONS

0.0	0.2544E+09	0.9782E+09	0.2060E+10	0.3334E+10	0.4605E+10	0.5682E+10	0.6410E+10	0.6695E+10	0.6521E+10
0.5943E+10	0.5078E+10	0.4067E+10	0.3051E+10	0.2141E+10	0.1402E+10	0.8542E+09	0.4832E+09	0.2530E+09	0.1222E+09
0.5423E+08	0.2207E+08	0.8207E+07	0.2793E+07	0.8721E+06	0.2043E+06	0.5121E+05	0.1147E+05	0.2290E+04	0.4055E+03
0.6346E+02	0.8743E+01	0.1056E+01	0.1106E+00	0.2940E-02	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0									

Table 8

ANGULAR DISTRIBUTION OF POLARISED COMPONENTS OF SYNCHROTRON RADIATION AT 100ANGSTROMS FROM 3.0GEV ELECTRONS

THE SPECTRA ARE LISTED AT INCREMENTS OF 0.02MRAD FROM 0.0 TO 1.0MRAD
IN UNITS OF PHOTONS/MA BEAM/MRAD HORIZ/MRAD VERT/SEC IN A 0.1% BANDWIDTH

TOTAL INTENSITY OF PHOTONS

0.1543E+11	0.1545E+11	0.1552E+11	0.1562E+11	0.1575E+11	0.1591E+11	0.1608E+11	0.1625E+11	0.1642E+11	0.1656E+11
0.1667E+11	0.1672E+11	0.1671E+11	0.1663E+11	0.1646E+11	0.1620E+11	0.1584E+11	0.1537E+11	0.1482E+11	0.1416E+11
0.1342E+11	0.1261E+11	0.1173E+11	0.1080E+11	0.9849E+10	0.8883E+10	0.7923E+10	0.6985E+10	0.6084E+10	0.5234E+10
0.4446E+10	0.3727E+10	0.3082E+10	0.2513E+10	0.2020E+10	0.1600E+10	0.1248E+10	0.9583E+09	0.7243E+09	0.5385E+09
0.3937E+09	0.2830E+09	0.1998E+09	0.1386E+09	0.9437E+08	0.6306E+08	0.4134E+08	0.2657E+08	0.1674E+08	0.1033E+08
0.6245E+07									

INTENSITY OF PARALLEL POLARISED PHOTONS

0.1543E+11	0.1542E+11	0.1539E+11	0.1534E+11	0.1526E+11	0.1516E+11	0.1503E+11	0.1487E+11	0.1467E+11	0.1444E+11
0.1417E+11	0.1385E+11	0.1349E+11	0.1308E+11	0.1263E+11	0.1212E+11	0.1158E+11	0.1099E+11	0.1036E+11	0.9703E+10
0.9019E+10	0.8316E+10	0.7605E+10	0.6892E+10	0.6189E+10	0.5503E+10	0.4843E+10	0.4217E+10	0.3631E+10	0.3091E+10
0.2599E+10	0.2158E+10	0.1769E+10	0.1431E+10	0.1142E+10	0.8979E+09	0.6958E+09	0.5311E+09	0.3991E+09	0.2952E+09
0.2148E+09	0.1536E+09	0.1080E+09	0.7462E+08	0.5061E+08	0.3370E+08	0.2201E+08	0.1410E+08	0.8853E+07	0.5443E+07
0.3275E+07									

INTENSITY OF PERPENDICULARLY POLARISED PHOTONS

0.0	0.3168E+08	0.1258E+09	0.2799E+09	0.4896E+09	0.7492E+09	0.1051E+10	0.1387E+10	0.1748E+10	0.2123E+10
0.2501E+10	0.2872E+10	0.3224E+10	0.3548E+10	0.3833E+10	0.4072E+10	0.4259E+10	0.4387E+10	0.4454E+10	0.4459E+10
0.4403E+10	0.4289E+10	0.4123E+10	0.3911E+10	0.3660E+10	0.3380E+10	0.3079E+10	0.2767E+10	0.2453E+10	0.2144E+10
0.1847E+10	0.1568E+10	0.1312E+10	0.1082E+10	0.8782E+09	0.7018E+09	0.5520E+09	0.4272E+09	0.3251E+09	0.2433E+09
0.1790E+09	0.1293E+09	0.9180E+08	0.6397E+08	0.4376E+08	0.2936E+08	0.1933E+08	0.1247E+08	0.7888E+07	0.4890E+07
0.2970E+07									

Table 9

ANGULAR DISTRIBUTION OF POLARISED COMPONENTS OF SYNCHROTRON RADIATION AT 1000ANGSTROMS FROM 3.0GEV ELECTRONS

THE SPECTRA ARE LISTED AT INCREMENTS OF 0.02MRAD FROM 0.0 TO 1.0MRAD
IN UNITS OF PHOTONS/MA BEAM/MRAD HORIZ/MRAD VERT/SEC IN A 0.1% BANDWIDTH

TOTAL INTENSITY OF PHOTONS

0.3983E+10	0.3984E+10	0.3990E+10	0.3998E+10	0.4011E+10	0.4026E+10	0.4044E+10	0.4066E+10	0.4090E+10	0.4117E+10
0.4146E+10	0.4177E+10	0.4209E+10	0.4243E+10	0.4278E+10	0.4313E+10	0.4349E+10	0.4385E+10	0.4419E+10	0.4453E+10
0.4485E+10	0.4515E+10	0.4543E+10	0.4568E+10	0.4590E+10	0.4608E+10	0.4623E+10	0.4632E+10	0.4637E+10	0.4637E+10
0.4631E+10	0.4619E+10	0.4601E+10	0.4578E+10	0.4547E+10	0.4510E+10	0.4467E+10	0.4417E+10	0.4360E+10	0.4296E+10
0.4226E+10	0.4150E+10	0.4067E+10	0.3979E+10	0.3884E+10	0.3785E+10	0.3680E+10	0.3571E+10	0.3458E+10	0.3340E+10
0.3220E+10									

INTENSITY OF PARALLEL POLARISED PHOTONS

0.3983E+10	0.3982E+10	0.3982E+10	0.3980E+10	0.3978E+10	0.3976E+10	0.3973E+10	0.3969E+10	0.3964E+10	0.3959E+10
0.3952E+10	0.3945E+10	0.3936E+10	0.3927E+10	0.3916E+10	0.3903E+10	0.3889E+10	0.3874E+10	0.3856E+10	0.3837E+10
0.3816E+10	0.3793E+10	0.3767E+10	0.3739E+10	0.3709E+10	0.3676E+10	0.3640E+10	0.3601E+10	0.3560E+10	0.3516E+10
0.3469E+10	0.3419E+10	0.3366E+10	0.3310E+10	0.3252E+10	0.3190E+10	0.3125E+10	0.3058E+10	0.2988E+10	0.2915E+10
0.2840E+10	0.2762E+10	0.2683E+10	0.2601E+10	0.2517E+10	0.2433E+10	0.2346E+10	0.2259E+10	0.2171E+10	0.2082E+10
0.1993E+10									

INTENSITY OF PERPENDICULARLY POLARISED PHOTONS

0.0	0.2027E+07	0.8096E+07	0.1817E+08	0.3220E+08	0.5009E+08	0.7176E+08	0.9709E+08	0.1259E+09	0.1581E+09
0.1935E+09	0.2318E+09	0.2729E+09	0.3164E+09	0.3623E+09	0.4101E+09	0.4597E+09	0.5107E+09	0.5628E+09	0.6158E+09
0.6693E+09	0.7229E+09	0.7764E+09	0.8295E+09	0.8817E+09	0.9329E+09	0.9827E+09	0.1031E+10	0.1077E+10	0.1120E+10
0.1162E+10	0.1200E+10	0.1235E+10	0.1267E+10	0.1296E+10	0.1321E+10	0.1342E+10	0.1359E+10	0.1372E+10	0.1381E+10
0.1387E+10	0.1388E+10	0.1385E+10	0.1378E+10	0.1367E+10	0.1352E+10	0.1334E+10	0.1312E+10	0.1287E+10	0.1259E+10
0.1227E+10									

Table 10

ANGULAR DISTRIBUTION OF POLARISED COMPONENTS OF SYNCHROTRON RADIATION AT 10ANGSTROMS FROM 4.0GEV ELECTRONS

THE SPECTRA ARE LISTED AT INCREMENTS OF 0.02MRAD FROM 0.0 TO 1.0MRAD
IN UNITS OF PHOTONS/MA BEAM/MRAD HORIZ/MRAD VERT/SEC IN A 0.1% BANDWIDTH

TOTAL INTENSITY OF PHOTONS

0.5591E+11	0.5604E+11	0.5636E+11	0.5665E+11	0.5662E+11	0.5591E+11	0.5419E+11	0.5125E+11	0.4701E+11	0.4161E+11
0.3538E+11	0.2875E+11	0.2224E+11	0.1631E+11	0.1129E+11	0.7352E+10	0.4483E+10	0.2550E+10	0.1347E+10	0.6591E+09
0.2971E+09	0.1229E+09	0.4651E+08	0.1600E+08	0.4973E+07	0.1365E+07	0.3142E+06	0.7244E+05	0.1488E+05	0.2714E+04
0.4376E+03	0.6213E+02	0.7736E+01	0.8396E+00	0.7599E-01	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0									

INTENSITY OF PARALLEL POLARISED PHOTONS

0.5591E+11	0.5560E+11	0.5469E+11	0.5312E+11	0.5085E+11	0.4786E+11	0.4412E+11	0.3972E+11	0.3476E+11	0.2947E+11
0.2408E+11	0.1890E+11	0.1417E+11	0.1011E+11	0.6832E+10	0.4355E+10	0.2607E+10	0.1459E+10	0.7606E+09	0.3675E+09
0.1639E+09	0.6715E+08	0.2515E+08	0.8551E+07	0.2597E+07	0.6756E+06	0.1643E+06	0.3776E+05	0.7734E+04	0.1407E+04
0.2262E+03	0.3204E+02	0.3981E+01	0.4313E+00	0.3894E-01	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0									

INTENSITY OF PERPENDICULARLY POLARISED PHOTONS

0.0	0.4325E+09	0.1670E+10	0.3538E+10	0.5773E+10	0.8059E+10	0.1007E+11	0.1153E+11	0.1225E+11	0.1215E+11
0.1129E+11	0.9857E+10	0.8075E+10	0.6203E+10	0.4461E+10	0.2997E+10	0.1875E+10	0.1090E+10	0.5869E+09	0.2916E+09
0.1332E+09	0.5580E+08	0.2135E+08	0.7450E+07	0.2376E+07	0.6892E+06	0.1498E+06	0.3468E+05	0.7149E+04	0.1308E+04
0.2114E+03	0.3009E+02	0.3754E+01	0.4083E+00	0.3705E-01	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0									

Table 11

ANGULAR DISTRIBUTION OF POLARISED COMPONENTS OF SYNCHROTRON RADIATION AT 100ANGSTROMS FROM 4.0GEV ELECTRONS

THE SPECTRA ARE LISTED AT INCREMENTS OF 0.02MRAD FROM 0.0 TO 1.0MRAD
IN UNITS OF PHOTONS/MA BEAM/MRAD HORIZ/MRAD VERT/SEC IN A 0.1% BANDWIDTH

TOTAL INTENSITY OF PHOTONS

0.1706E+11	0.1709E+11	0.1718E+11	0.1731E+11	0.1750E+11	0.1772E+11	0.1796E+11	0.1822E+11	0.1847E+11	0.1870E+11
0.1889E+11	0.1903E+11	0.1910E+11	0.1908E+11	0.1897E+11	0.1874E+11	0.1840E+11	0.1794E+11	0.1736E+11	0.1666E+11
0.1586E+11	0.1496E+11	0.1397E+11	0.1292E+11	0.1183E+11	0.1071E+11	0.9590E+10	0.8488E+10	0.7423E+10	0.6411E+10
0.5467E+10	0.4600E+10	0.3819E+10	0.3126E+10	0.2522E+10	0.2005E+10	0.1570E+10	0.1210E+10	0.9183E+09	0.6853E+09
0.5030E+09	0.3628E+09	0.2572E+09	0.1791E+09	0.1224E+09	0.8209E+08	0.5402E+08	0.3485E+08	0.2204E+08	0.1366E+08
0.8284E+07									

INTENSITY OF PARALLEL POLARISED PHOTONS

0.1706E+11	0.1705E+11	0.1703E+11	0.1698E+11	0.1692E+11	0.1683E+11	0.1671E+11	0.1657E+11	0.1639E+11	0.1617E+11
0.1591E+11	0.1560E+11	0.1525E+11	0.1484E+11	0.1437E+11	0.1385E+11	0.1328E+11	0.1265E+11	0.1198E+11	0.1126E+11
0.1051E+11	0.9731E+10	0.8935E+10	0.8133E+10	0.7334E+10	0.6549E+10	0.5788E+10	0.5061E+10	0.4377E+10	0.3741E+10
0.3159E+10	0.2635E+10	0.2169E+10	0.1762E+10	0.1411E+10	0.1114E+10	0.8672E+09	0.6646E+09	0.5015E+09	0.3724E+09
0.2721E+09	0.1954E+09	0.1380E+09	0.9568E+08	0.6516E+08	0.4356E+08	0.2857E+08	0.1838E+08	0.1158E+08	0.7153E+07
0.4322E+07									

INTENSITY OF PERPENDICULARLY POLARISED PHOTONS

0.0	0.3746E+08	0.1489E+09	0.3312E+09	0.5797E+09	0.8876E+09	0.1246E+10	0.1647E+10	0.2077E+10	0.2526E+10
0.2980E+10	0.3426E+10	0.3853E+10	0.4247E+10	0.4597E+10	0.4893E+10	0.5127E+10	0.5293E+10	0.5386E+10	0.5405E+10
0.5350E+10	0.5225E+10	0.5036E+10	0.4789E+10	0.4494E+10	0.4162E+10	0.3802E+10	0.3427E+10	0.3046E+10	0.2670E+10
0.2308E+10	0.1966E+10	0.1650E+10	0.1364E+10	0.1111E+10	0.8908E+09	0.7029E+09	0.5457E+09	0.4167E+09	0.3129E+09
0.2309E+09	0.1674E+09	0.1192E+09	0.8338E+08	0.5722E+08	0.3853E+08	0.2545E+08	0.1648E+08	0.1046E+08	0.6502E+07
0.3961E+07									

Table 12

ANGULAR DISTRIBUTION OF POLARISED COMPONENTS OF SYNCHROTRON RADIATION AT 1000ANGSTROMS FROM 4.0GEV ELECTRONS

THE SPECTRA ARE LISTED AT INCREMENTS OF 0.02MRAD FROM 0.0 TO 1.0MRAD
IN UNITS OF PHOTONS/MA BEAM/MRAD HORIZ/MRAD VERT/SEC IN A 0.1% BANDWIDTH

TOTAL INTENSITY OF PHOTONS

0.4220E+10	0.4222E+10	0.4228E+10	0.4237E+10	0.4251E+10	0.4268E+10	0.4289E+10	0.4313E+10	0.4340E+10	0.4371E+10
0.4403E+10	0.4438E+10	0.4475E+10	0.4513E+10	0.4553E+10	0.4593E+10	0.4634E+10	0.4675E+10	0.4715E+10	0.4754E+10
0.4791E+10	0.4827E+10	0.4860E+10	0.4890E+10	0.4916E+10	0.4939E+10	0.4958E+10	0.4971E+10	0.4980E+10	0.4983E+10
0.4980E+10	0.4971E+10	0.4955E+10	0.4932E+10	0.4903E+10	0.4866E+10	0.4823E+10	0.4772E+10	0.4713E+10	0.4647E+10
0.4575E+10	0.4495E+10	0.4408E+10	0.4315E+10	0.4215E+10	0.4109E+10	0.3998E+10	0.3882E+10	0.3761E+10	0.3636E+10
0.3507E+10									

INTENSITY OF PARALLEL POLARISED PHOTONS

0.4220E+10	0.4220E+10	0.4219E+10	0.4218E+10	0.4216E+10	0.4214E+10	0.4211E+10	0.4208E+10	0.4204E+10	0.4199E+10
0.4193E+10	0.4187E+10	0.4179E+10	0.4170E+10	0.4160E+10	0.4148E+10	0.4135E+10	0.4120E+10	0.4103E+10	0.4084E+10
0.4064E+10	0.4041E+10	0.4015E+10	0.3988E+10	0.3957E+10	0.3924E+10	0.3888E+10	0.3849E+10	0.3807E+10	0.3762E+10
0.3714E+10	0.3663E+10	0.3608E+10	0.3551E+10	0.3490E+10	0.3425E+10	0.3358E+10	0.3288E+10	0.3214E+10	0.3138E+10
0.3059E+10	0.2977E+10	0.2893E+10	0.2807E+10	0.2719E+10	0.2629E+10	0.2537E+10	0.2444E+10	0.2350E+10	0.2256E+10
0.2160E+10									

INTENSITY OF PERPENDICULARLY POLARISED PHOTONS

0.0	0.2198E+07	0.8781E+07	0.1970E+08	0.3493E+08	0.5434E+08	0.7786E+08	0.1053E+09	0.1367E+09	0.1716E+09
0.2100E+09	0.2516E+09	0.2962E+09	0.3436E+09	0.3934E+09	0.4454E+09	0.4994E+09	0.5549E+09	0.6116E+09	0.6693E+09
0.7275E+09	0.7860E+09	0.8443E+09	0.9022E+09	0.9593E+09	0.1015E+10	0.1070E+10	0.1122E+10	0.1173E+10	0.1221E+10
0.1266E+10	0.1308E+10	0.1347E+10	0.1382E+10	0.1413E+10	0.1441E+10	0.1465E+10	0.1484E+10	0.1499E+10	0.1509E+10
0.1516E+10	0.1517E+10	0.1515E+10	0.1507E+10	0.1496E+10	0.1481E+10	0.1461E+10	0.1438E+10	0.1411E+10	0.1380E+10
0.1347E+10									

Table 13

ANGULAR DISTRIBUTION OF POLARISED COMPONENTS OF SYNCHROTRON RADIATION AT 10ANGSTROMS FROM 5.0GEV ELECTRONS

THE SPECTRA ARE LISTED AT INCREMENTS OF 0.02MRAD FROM 0.0 TO 1.0MRAD
IN UNITS OF PHOTONS/MA BEAM/MRAD HORIZ/MRAD VERT/SEC IN A 0.1% BANDWIDTH

TOTAL INTENSITY OF PHOTONS

0.6511E+11	0.6540E+11	0.6617E+11	0.6715E+11	0.6790E+11	0.6796E+11	0.6683E+11	0.6415E+11	0.5976E+11	0.5372E+11
0.4638E+11	0.3828E+11	0.3007E+11	0.2240E+11	0.1575E+11	0.1041E+11	0.6447E+10	0.3724E+10	0.1999E+10	0.9929E+09
0.4546E+09	0.1911E+09	0.7343E+08	0.2568E+08	0.8124E+07	0.2294E+07	0.5257E+06	0.1232E+06	0.2572E+05	0.4767E+04
0.7809E+03	0.1127E+03	0.1425E+02	0.1574E+01	0.1489E+00	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0									

INTENSITY OF PARALLEL POLARISED PHOTONS

0.6511E+11	0.6484E+11	0.6400E+11	0.6253E+11	0.6034E+11	0.5734E+11	0.5348E+11	0.4875E+11	0.4327E+11	0.3721E+11
0.3088E+11	0.2461E+11	0.1875E+11	0.1360E+11	0.9340E+10	0.6053E+10	0.3684E+10	0.2096E+10	0.1111E+10	0.5455E+09
0.2473E+09	0.1030E+09	0.3926E+08	0.1360E+08	0.4229E+07	0.1144E+07	0.2723E+06	0.6362E+05	0.1325E+05	0.2450E+04
0.4006E+03	0.5768E+02	0.7285E+01	0.8036E+00	0.7587E-01	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0									

INTENSITY OF PERPENDICULARLY POLARISED PHOTONS

0.0	0.5614E+09	0.2172E+10	0.4616E+10	0.7565E+10	0.1062E+11	0.1335E+11	0.1540E+11	0.1649E+11	0.1651E+11
0.1550E+11	0.1367E+11	0.1133E+11	0.8802E+10	0.6408E+10	0.4359E+10	0.2763E+10	0.1628E+10	0.8883E+09	0.4474E+09
0.2073E+09	0.8805E+08	0.3417E+08	0.1208E+08	0.3895E+07	0.1150E+07	0.2535E+06	0.5957E+05	0.1247E+05	0.2317E+04
0.3804E+03	0.5498E+02	0.6967E+01	0.7709E+00	0.7304E-01	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0									

Table 14

ANGULAR DISTRIBUTION OF POLARISED COMPONENTS OF SYNCHROTRON RADIATION AT 100ANGSTROMS FROM 5.0GEV ELECTRONS

THE SPECTRA ARE LISTED AT INCREMENTS OF 0.02MRAD FROM 0.0 TO 1.0MRAD
IN UNITS OF PHOTONS/MA BEAM/MRAD HORIZ/MRAD VERT/SEC IN A 0.1% BANDWIDTH

TOTAL INTENSITY OF PHOTONS

0.1808E+11	0.1812E+11	0.1822E+11	0.1838E+11	0.1859E+11	0.1885E+11	0.1915E+11	0.1945E+11	0.1976E+11	0.2005E+11
0.2030E+11	0.2050E+11	0.2062E+11	0.2065E+11	0.2057E+11	0.2037E+11	0.2005E+11	0.1959E+11	0.1900E+11	0.1827E+11
0.1743E+11	0.1647E+11	0.1542E+11	0.1429E+11	0.1311E+11	0.1189E+11	0.1067E+11	0.9465E+10	0.8294E+10	0.7178E+10
0.6133E+10	0.5171E+10	0.4301E+10	0.3528E+10	0.2852E+10	0.2272E+10	0.1782E+10	0.1377E+10	0.1046E+10	0.7825E+09
0.5754E+09	0.4159E+09	0.2954E+09	0.2060E+09	0.1411E+09	0.9481E+08	0.6250E+08	0.4040E+08	0.2560E+08	0.1589E+08
0.9659E+07									

INTENSITY OF PARALLEL POLARISED PHOTONS

0.1808E+11	0.1807E+11	0.1805E+11	0.1801E+11	0.1796E+11	0.1788E+11	0.1777E+11	0.1764E+11	0.1747E+11	0.1726E+11
0.1701E+11	0.1671E+11	0.1636E+11	0.1595E+11	0.1548E+11	0.1495E+11	0.1436E+11	0.1371E+11	0.1301E+11	0.1225E+11
0.1146E+11	0.1064E+11	0.9789E+10	0.8929E+10	0.8070E+10	0.7222E+10	0.6398E+10	0.5607E+10	0.4859E+10	0.4162E+10
0.3523E+10	0.2944E+10	0.2429E+10	0.1977E+10	0.1587E+10	0.1256E+10	0.9796E+09	0.7524E+09	0.5689E+09	0.4234E+09
0.3099E+09	0.2231E+09	0.1578E+09	0.1097E+09	0.7484E+08	0.5013E+08	0.3295E+08	0.2123E+08	0.1341E+08	0.8299E+07
0.5026E+07									

INTENSITY OF PERPENDICULARLY POLARISED PHOTONS

0.0	0.4119E+08	0.1637E+09	0.3643E+09	0.6377E+09	0.9767E+09	0.1372E+10	0.1814E+10	0.2289E+10	0.2785E+10
0.3288E+10	0.3784E+10	0.4259E+10	0.4699E+10	0.5091E+10	0.5425E+10	0.5690E+10	0.5881E+10	0.5991E+10	0.6019E+10
0.5966E+10	0.5834E+10	0.5630E+10	0.5361E+10	0.5039E+10	0.4672E+10	0.4275E+10	0.3859E+10	0.3435E+10	0.3016E+10
0.2611E+10	0.2227E+10	0.1872E+10	0.1551E+10	0.1265E+10	0.1016E+10	0.8028E+09	0.6243E+09	0.4775E+09	0.3592E+09
0.2655E+09	0.1928E+09	0.1376E+09	0.9635E+08	0.6624E+08	0.4468E+08	0.2956E+08	0.1917E+08	0.1219E+08	0.7591E+07
0.4632E+07									

Table 15

ANGULAR DISTRIBUTION OF POLARISED COMPONENTS OF SYNCHROTRON RADIATION AT 1000ANGSTROMS FROM 5.0GEV ELECTRONS

THE SPECTRA ARE LISTED AT INCREMENTS OF 0.02MRAD FROM 0.0 TO 1.0MRAD
IN UNITS OF PHOTONS/MA BEAM/MRAD HORIZ/MRAD VERT/SEC IN A 0.1% BANDWIDTH

TOTAL INTENSITY OF PHOTONS

0.4372E+10	0.4374E+10	0.4381E+10	0.4391E+10	0.4406E+10	0.4424E+10	0.4447E+10	0.4472E+10	0.4502E+10	0.4534E+10
0.4569E+10	0.4606E+10	0.4646E+10	0.4687E+10	0.4730E+10	0.4774E+10	0.4817E+10	0.4861E+10	0.4905E+10	0.4947E+10
0.4988E+10	0.5027E+10	0.5063E+10	0.5097E+10	0.5126E+10	0.5152E+10	0.5173E+10	0.5190E+10	0.5200E+10	0.5206E+10
0.5204E+10	0.5197E+10	0.5182E+10	0.5161E+10	0.5132E+10	0.5096E+10	0.5052E+10	0.5000E+10	0.4940E+10	0.4873E+10
0.4799E+10	0.4717E+10	0.4627E+10	0.4531E+10	0.4428E+10	0.4318E+10	0.4203E+10	0.4082E+10	0.3956E+10	0.3826E+10
0.3692E+10									

INTENSITY OF PARALLEL POLARISED PHOTONS

0.4372E+10	0.4372E+10	0.4372E+10	0.4371E+10	0.4369E+10	0.4367E+10	0.4365E+10	0.4362E+10	0.4358E+10	0.4354E+10
0.4348E+10	0.4342E+10	0.4335E+10	0.4326E+10	0.4317E+10	0.4305E+10	0.4293E+10	0.4278E+10	0.4262E+10	0.4244E+10
0.4223E+10	0.4200E+10	0.4175E+10	0.4148E+10	0.4117E+10	0.4084E+10	0.4048E+10	0.4009E+10	0.3966E+10	0.3921E+10
0.3872E+10	0.3820E+10	0.3764E+10	0.3705E+10	0.3643E+10	0.3577E+10	0.3508E+10	0.3436E+10	0.3360E+10	0.3282E+10
0.3200E+10	0.3116E+10	0.3029E+10	0.2940E+10	0.2848E+10	0.2755E+10	0.2660E+10	0.2564E+10	0.2466E+10	0.2367E+10
0.2268E+10									

INTENSITY OF PERPENDICULARLY POLARISED PHOTONS

0.0	0.2306E+07	0.9224E+07	0.2070E+08	0.3668E+08	0.5708E+08	0.8179E+08	0.1107E+09	0.1436E+09	0.1803E+09
0.2206E+09	0.2644E+09	0.3113E+09	0.3610E+09	0.4134E+09	0.4682E+09	0.5249E+09	0.5833E+09	0.6430E+09	0.7037E+09
0.7650E+09	0.8266E+09	0.8880E+09	0.9490E+09	0.1009E+10	0.1068E+10	0.1126E+10	0.1181E+10	0.1234E+10	0.1285E+10
0.1333E+10	0.1377E+10	0.1418E+10	0.1456E+10	0.1489E+10	0.1519E+10	0.1544E+10	0.1564E+10	0.1580E+10	0.1592E+10
0.1599E+10	0.1601E+10	0.1598E+10	0.1591E+10	0.1579E+10	0.1563E+10	0.1543E+10	0.1518E+10	0.1490E+10	0.1458E+10
0.1423E+10									

Table 16

SYNCHROTRON RADIATION SPECTRUM FOR HORIZONTAL WADSWORTH 1 (N1) WITH THE SYNCHROTRON OPERATING AT 1,2,3,4&5GEV

SPECTRA ARE LISTED AT LOGARITHMIC INCREMENTS OF1/10TH OF A DECADE FROM 0.1 TO 100.000 ANGSTROMS
IN UNITS OF PHOTONS/MA BEAM/SEC INTO A 0.1% BANDWIDTH

1.0GEV

0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.1389E-02	0.9471E+00	0.1093E+03	0.4714E+04
0.9698E+05	0.1166E+07	0.7939E+07	0.3602E+08	0.1193E+09	0.3078E+09	0.6498E+09	0.1166E+10	0.1833E+10	0.2582E+10
0.3322E+10	0.3965E+10	0.4449E+10	0.4744E+10	0.4852E+10	0.4800E+10	0.4620E+10	0.4352E+10	0.4028E+10	0.3678E+10
0.3320E+10	0.2972E+10	0.2641E+10	0.2334E+10	0.2053E+10	0.1799E+10	0.1571E+10	0.1368E+10	0.1188E+10	0.1029E+10
0.8893E+09	0.7673E+09	0.6610E+09	0.5688E+09	0.4890E+09	0.4201E+09	0.3607E+09	0.3095E+09	0.2656E+09	0.2278E+09
0.1954E+09									

2.0GEV

0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4159E-02	0.2621E+01	0.2924E+03
0.1227E+05	0.2481E+06	0.2918E+07	0.1949E+08	0.8702E+08	0.2841E+09	0.7242E+09	0.1516E+10	0.2715E+10	0.4292E+10
0.6148E+10	0.8141E+10	0.1013E+11	0.1197E+11	0.1358E+11	0.1486E+11	0.1576E+11	0.1624E+11	0.1628E+11	0.1593E+11
0.1525E+11	0.1432E+11	0.1323E+11	0.1205E+11	0.1085E+11	0.9683E+10	0.8575E+10	0.7549E+10	0.6615E+10	0.5776E+10
0.5028E+10	0.4368E+10	0.3788E+10	0.3280E+10	0.2838E+10	0.2453E+10	0.2119E+10	0.1830E+10	0.1579E+10	0.1361E+10
0.1173E+10	0.1010E+10	0.8689E+09	0.7471E+09	0.6420E+09	0.5514E+09	0.4733E+09	0.4062E+09	0.3485E+09	0.2990E+09
0.2564E+09									

3.0GEV

0.0	0.0	0.6257E-01	0.1727E+02	0.1427E+04	0.4719E+05	0.8291E+06	0.8114E+07	0.4773E+08	0.1933E+09
0.5842E+09	0.1400E+10	0.2792E+10	0.4808E+10	0.7372E+10	0.1031E+11	0.1339E+11	0.1641E+11	0.1918E+11	0.2160E+11
0.2360E+11	0.2515E+11	0.2627E+11	0.2696E+11	0.2724E+11	0.2709E+11	0.2651E+11	0.2551E+11	0.2416E+11	0.2252E+11
0.2069E+11	0.1876E+11	0.1683E+11	0.1496E+11	0.1320E+11	0.1158E+11	0.1010E+11	0.8787E+10	0.7620E+10	0.6595E+10
0.5699E+10	0.4919E+10	0.4243E+10	0.3658E+10	0.3151E+10	0.2714E+10	0.2337E+10	0.2011E+10	0.1729E+10	0.1486E+10
0.1277E+10	0.1096E+10	0.9409E+09	0.8073E+09	0.6924E+09	0.5938E+09	0.5092E+09	0.4366E+09	0.3743E+09	0.3209E+09
0.2751E+09									

4.0GEV

0.6963E+03	0.2844E+05	0.5664E+06	0.6509E+07	0.4281E+08	0.1887E+09	0.6098E+09	0.1541E+10	0.3205E+10	0.5708E+10
0.8988E+10	0.1284E+11	0.1696E+11	0.2106E+11	0.2490E+11	0.2829E+11	0.3113E+11	0.3338E+11	0.3505E+11	0.3617E+11
0.3680E+11	0.3699E+11	0.3681E+11	0.3628E+11	0.3540E+11	0.3418E+11	0.3259E+11	0.3068E+11	0.2848E+11	0.2610E+11
0.2363E+11	0.2116E+11	0.1877E+11	0.1653E+11	0.1446E+11	0.1260E+11	0.1093E+11	0.9455E+10	0.8164E+10	0.7039E+10
0.6063E+10	0.5218E+10	0.4489E+10	0.3861E+10	0.3321E+10	0.2855E+10	0.2455E+10	0.2110E+10	0.1813E+10	0.1557E+10
0.1336E+10	0.1147E+10	0.9840E+09	0.8439E+09	0.7237E+09	0.6205E+09	0.5320E+09	0.4561E+09	0.3910E+09	0.3352E+09
0.2874E+09									

5.0GEV

0.6702E+07	0.4600E+08	0.2095E+09	0.6945E+09	0.1791E+10	0.3786E+10	0.6829E+10	0.1086E+11	0.1564E+11	0.2080E+11
0.2596E+11	0.3082E+11	0.3513E+11	0.3877E+11	0.4167E+11	0.4383E+11	0.4531E+11	0.4616E+11	0.4646E+11	0.4630E+11
0.4575E+11	0.4488E+11	0.4373E+11	0.4233E+11	0.4067E+11	0.3872E+11	0.3648E+11	0.3397E+11	0.3123E+11	0.2838E+11
0.2549E+11	0.2268E+11	0.2001E+11	0.1753E+11	0.1527E+11	0.1325E+11	0.1146E+11	0.9886E+10	0.8514E+10	0.7325E+10
0.6297E+10	0.5410E+10	0.4648E+10	0.3992E+10	0.3429E+10	0.2946E+10	0.2531E+10	0.2175E+10	0.1869E+10	0.1606E+10
0.1380E+10	0.1186E+10	0.1019E+10	0.8749E+09	0.7510E+09	0.6446E+09	0.5531E+09	0.4745E+09	0.4070E+09	0.3490E+09
0.2993E+09									

SYNCHROTRON RADIATION SPECTRUM FOR MIRROR BOX 1 (N2) WITH THE SYNCHROTRON OPERATING AT 1.2.3.4&5GEV

SPECTRA ARE LISTED AT LOGARITHMIC INCREMENTS OF1/10TH OF A DECADE FROM 0.1 TO 100,000 ANGSTROMS
IN UNITS OF PHOTONS/MA BEAM/SEC INTO A 0.1% BANDWIDTH

1.0GEV

0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.4051E-03	0.2763E+00	0.3189E+02	0.1375E+04
0.2829E+05	0.3402E+06	0.2316E+07	0.1051E+08	0.3482E+08	0.8992E+08	0.1904E+09	0.3441E+09	0.5480E+09	0.7894E+09
0.1049E+10	0.1308E+10	0.1546E+10	0.1748E+10	0.1901E+10	0.1997E+10	0.2034E+10	0.2014E+10	0.1945E+10	0.1838E+10
0.1706E+10	0.1559E+10	0.1407E+10	0.1258E+10	0.1114E+10	0.9809E+09	0.8587E+09	0.7483E+09	0.6495E+09	0.5620E+09
0.4850E+09	0.4176E+09	0.3591E+09	0.3083E+09	0.2645E+09	0.2267E+09	0.1943E+09	0.1664E+09	0.1426E+09	0.1221E+09
0.1046E+09									

2.0GEV

0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1213E-02	0.7647E+00	0.8530E+02
0.3580E+04	0.7239E+05	0.8511E+06	0.5687E+07	0.2539E+08	0.8289E+08	0.2113E+09	0.4423E+09	0.7919E+09	0.1252E+10
0.1794E+10	0.2375E+10	0.2954E+10	0.3496E+10	0.3974E+10	0.4374E+10	0.4690E+10	0.4923E+10	0.5078E+10	0.5163E+10
0.5184E+10	0.5146E+10	0.5050E+10	0.4896E+10	0.4683E+10	0.4415E+10	0.4104E+10	0.3763E+10	0.3407E+10	0.3050E+10
0.2706E+10	0.2382E+10	0.2084E+10	0.1814E+10	0.1573E+10	0.1360E+10	0.1174E+10	0.1011E+10	0.8703E+09	0.7482E+09
0.6427E+09	0.5517E+09	0.4733E+09	0.4058E+09	0.3477E+09	0.2979E+09	0.2552E+09	0.2186E+09	0.1872E+09	0.1603E+09
0.1373E+09									

3.0GEV

0.0	0.0	0.1825E-01	0.5038E+01	0.4164E+03	0.1377E+05	0.2419E+06	0.2367E+07	0.1392E+08	0.5639E+08
0.1704E+09	0.4085E+09	0.8145E+09	0.1403E+10	0.2151E+10	0.3007E+10	0.3906E+10	0.4786E+10	0.5595E+10	0.6301E+10
0.6884E+10	0.7338E+10	0.7667E+10	0.7880E+10	0.7990E+10	0.8010E+10	0.7954E+10	0.7835E+10	0.7665E+10	0.7454E+10
0.7209E+10	0.6929E+10	0.6613E+10	0.6254E+10	0.5853E+10	0.5414E+10	0.4948E+10	0.4469E+10	0.3994E+10	0.3536E+10
0.3106E+10	0.2711E+10	0.2355E+10	0.2037E+10	0.1757E+10	0.1512E+10	0.1299E+10	0.1115E+10	0.9559E+09	0.8188E+09
0.7010E+09	0.5998E+09	0.5131E+09	0.4389E+09	0.3754E+09	0.3210E+09	0.2746E+09	0.2350E+09	0.2011E+09	0.1721E+09
0.1473E+09									

4.0GEV

0.2031E+03	0.8296E+04	0.1652E+06	0.1899E+07	0.1249E+08	0.5505E+08	0.1779E+09	0.4496E+09	0.9350E+09	0.1665E+10
0.2622E+10	0.3744E+10	0.4947E+10	0.6144E+10	0.7263E+10	0.8252E+10	0.9080E+10	0.9737E+10	0.1022E+11	0.1055E+11
0.1073E+11	0.1079E+11	0.1074E+11	0.1061E+11	0.1040E+11	0.1013E+11	0.9821E+10	0.9477E+10	0.9109E+10	0.8724E+10
0.8325E+10	0.7908E+10	0.7468E+10	0.6996E+10	0.6492E+10	0.5958E+10	0.5407E+10	0.4853E+10	0.4313E+10	0.3800E+10
0.3324E+10	0.2890E+10	0.2502E+10	0.2158E+10	0.1857E+10	0.1595E+10	0.1368E+10	0.1172E+10	0.1003E+10	0.8585E+09
0.7343E+09	0.6279E+09	0.5368E+09	0.4590E+09	0.3924E+09	0.3356E+09	0.2870E+09	0.2455E+09	0.2101E+09	0.1798E+09
0.1539E+09									

5.0GEV

0.1955E+07	0.1342E+08	0.6111E+08	0.2026E+09	0.5226E+09	0.1104E+10	0.1992E+10	0.3169E+10	0.4562E+10	0.6067E+10
0.7574E+10	0.8991E+10	0.1025E+11	0.1131E+11	0.1216E+11	0.1279E+11	0.1322E+11	0.1347E+11	0.1355E+11	0.1351E+11
0.1335E+11	0.1309E+11	0.1277E+11	0.1238E+11	0.1196E+11	0.1150E+11	0.1102E+11	0.1053E+11	0.1003E+11	0.9536E+10
0.9039E+10	0.8535E+10	0.8015E+10	0.7472E+10	0.6901E+10	0.6307E+10	0.5702E+10	0.5100E+10	0.4518E+10	0.3970E+10
0.3464E+10	0.3005E+10	0.2596E+10	0.2236E+10	0.1921E+10	0.1647E+10	0.1412E+10	0.1209E+10	0.1035E+10	0.8860E+09
0.7585E+09	0.6493E+09	0.5558E+09	0.4757E+09	0.4072E+09	0.3485E+09	0.2983E+09	0.2554E+09	0.2186E+09	0.1872E+09
0.1603E+09									

Table 18

SYNCHROTRON RADIATION SPECTRUM FOR HORIZONTAL WADSWORTH 2 (N3) WITH THE SYNCHROTRON OPERATING AT 1,2,3,4&5GEV

SPECTRA ARE LISTED AT LOGARITHMIC INCREMENTS OF1/10TH OF A DECADE FROM 0.1 TO 100,000 ANGSTROMS
IN UNITS OF PHOTONS/MA BEAM/SEC INTO A 0.1% BANDWIDTH

1.0GEV

0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.8562E-03	0.5839E+00	0.6739E+02	0.2907E+04
0.5979E+05	0.7185E+06	0.4883E+07	0.2204E+08	0.7227E+08	0.1832E+09	0.3772E+09	0.6554E+09	0.9925E+09	0.1344E+10
0.1664E+10	0.1917E+10	0.2083E+10	0.2162E+10	0.2163E+10	0.2101E+10	0.1995E+10	0.1859E+10	0.1708E+10	0.1550E+10
0.1394E+10	0.1245E+10	0.1105E+10	0.9758E+09	0.8583E+09	0.7523E+09	0.6573E+09	0.5727E+09	0.4976E+09	0.4314E+09
0.3732E+09	0.3222E+09	0.2778E+09	0.2392E+09	0.2058E+09	0.1769E+09	0.1519E+09	0.1305E+09	0.1120E+09	0.9611E+08
0.8246E+08									

2.0GEV

0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2564E-02	0.1616E+01	0.1803E+03
0.7565E+04	0.1530E+06	0.1799E+07	0.1202E+08	0.5365E+08	0.1752E+09	0.4465E+09	0.9348E+09	0.1673E+10	0.2644E+10
0.3777E+10	0.4970E+10	0.6108E+10	0.7081E+10	0.7810E+10	0.8252E+10	0.8407E+10	0.8306E+10	0.7998E+10	0.7541E+10
0.6988E+10	0.6385E+10	0.5769E+10	0.5166E+10	0.4593E+10	0.4060E+10	0.3573E+10	0.3133E+10	0.2739E+10	0.2389E+10
0.2080E+10	0.1808E+10	0.1569E+10	0.1361E+10	0.1179E+10	0.1021E+10	0.8834E+09	0.7638E+09	0.6600E+09	0.5698E+09
0.4916E+09	0.4238E+09	0.3650E+09	0.3141E+09	0.2701E+09	0.2321E+09	0.1994E+09	0.1712E+09	0.1470E+09	0.1261E+09
0.1082E+09									

3.0GEV

0.0	0.0	0.3858E-01	0.1065E+02	0.8800E+03	0.2909E+05	0.5112E+06	0.5003E+07	0.2943E+08	0.1192E+09
0.3602E+09	0.8634E+09	0.1721E+10	0.2965E+10	0.4546E+10	0.6355E+10	0.8255E+10	0.1011E+11	0.1182E+11	0.1328E+11
0.1443E+11	0.1521E+11	0.1560E+11	0.1560E+11	0.1523E+11	0.1456E+11	0.1365E+11	0.1260E+11	0.1147E+11	0.1033E+11
0.9219E+10	0.8165E+10	0.7190E+10	0.6303E+10	0.5505E+10	0.4796E+10	0.4168E+10	0.3617E+10	0.3134E+10	0.2714E+10
0.2347E+10	0.2029E+10	0.1753E+10	0.1514E+10	0.1307E+10	0.1128E+10	0.9731E+09	0.8388E+09	0.7225E+09	0.6219E+09
0.5349E+09	0.4598E+09	0.3950E+09	0.3392E+09	0.2912E+09	0.2499E+09	0.2144E+09	0.1840E+09	0.1578E+09	0.1354E+09
0.1161E+09									

4.0GEV

0.4293E+03	0.1753E+05	0.3492E+06	0.4013E+07	0.2639E+08	0.1163E+09	0.3760E+09	0.9503E+09	0.1976E+10	0.3519E+10
0.5542E+10	0.7914E+10	0.1046E+11	0.1299E+11	0.1535E+11	0.1744E+11	0.1919E+11	0.2057E+11	0.2157E+11	0.2219E+11
0.2242E+11	0.2224E+11	0.2167E+11	0.2074E+11	0.1952E+11	0.1808E+11	0.1652E+11	0.1491E+11	0.1332E+11	0.1181E+11
0.1040E+11	0.9107E+10	0.7944E+10	0.6908E+10	0.5993E+10	0.5190E+10	0.4488E+10	0.3878E+10	0.3348E+10	0.2889E+10
0.2492E+10	0.2149E+10	0.1853E+10	0.1597E+10	0.1377E+10	0.1186E+10	0.1022E+10	0.8798E+09	0.7571E+09	0.6512E+09
0.5598E+09	0.4810E+09	0.4131E+09	0.3546E+09	0.3044E+09	0.2612E+09	0.2241E+09	0.1922E+09	0.1649E+09	0.1414E+09
0.1213E+09									

5.0GEV

0.4132E+07	0.2836E+08	0.1291E+09	0.4282E+09	0.1104E+10	0.2334E+10	0.4210E+10	0.6697E+10	0.9642E+10	0.1282E+11
0.1601E+11	0.1900E+11	0.2166E+11	0.2390E+11	0.2569E+11	0.2703E+11	0.2793E+11	0.2845E+11	0.2859E+11	0.2838E+11
0.2781E+11	0.2688E+11	0.2561E+11	0.2404E+11	0.2224E+11	0.2031E+11	0.1832E+11	0.1636E+11	0.1449E+11	0.1274E+11
0.1114E+11	0.9705E+10	0.8424E+10	0.7294E+10	0.6305E+10	0.5443E+10	0.4694E+10	0.4046E+10	0.3486E+10	0.3002E+10
0.2585E+10	0.2226E+10	0.1917E+10	0.1650E+10	0.1421E+10	0.1223E+10	0.1053E+10	0.9067E+09	0.7805E+09	0.6719E+09
0.5782E+09	0.4974E+09	0.4277E+09	0.3676E+09	0.3159E+09	0.2713E+09	0.2329E+09	0.1999E+09	0.1716E+09	0.1472E+09
0.1263E+09									

Table 19

SYNCHROTRON RADIATION SPECTRUM FOR MIRROR BOX 2 (N4) WITH THE SYNCHROTRON OPERATING AT 1.2.3.465GEV

SPECTRA ARE LISTED AT LOGARITHMIC INCREMENTS OF1/10TH OF A DECADE FROM 0.1 TO 100.000 ANGSTROMS
IN UNITS OF PHOTONS/MA BEAM/SEC INTO A 0.1% BANDWIDTH

1.0GEV

0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.3563E-03	0.2430E+00	0.2804E+02	0.1210E+04
0.2488E+05	0.2992E+06	0.2037E+07	0.9241E+07	0.3062E+08	0.7908E+08	0.1674E+09	0.3026E+09	0.4819E+09	0.6940E+09
0.9215E+09	0.1145E+10	0.1347E+10	0.1510E+10	0.1623E+10	0.1682E+10	0.1688E+10	0.1647E+10	0.1569E+10	0.1466E+10
0.1348E+10	0.1222E+10	0.1096E+10	0.9751E+09	0.8612E+09	0.7563E+09	0.6611E+09	0.5756E+09	0.4995E+09	0.4322E+09
0.3730E+09	0.3213E+09	0.2764E+09	0.2375E+09	0.2038E+09	0.1748E+09	0.1499E+09	0.1285E+09	0.1101E+09	0.9435E+08
0.8085E+08									

2.0GEV

0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1067E-02	0.6725E+00	0.7501E+02
0.3148E+04	0.6366E+05	0.7485E+06	0.5001E+07	0.2232E+08	0.7290E+08	0.1858E+09	0.3890E+09	0.6964E+09	0.1101E+10
0.1577E+10	0.2089E+10	0.2598E+10	0.3074E+10	0.3495E+10	0.3846E+10	0.4124E+10	0.4329E+10	0.4464E+10	0.4534E+10
0.4540E+10	0.4481E+10	0.4359E+10	0.4175E+10	0.3936E+10	0.3655E+10	0.3347E+10	0.3026E+10	0.2707E+10	0.2400E+10
0.2112E+10	0.1848E+10	0.1609E+10	0.1396E+10	0.1208E+10	0.1044E+10	0.9002E+09	0.7756E+09	0.6676E+09	0.5743E+09
0.4936E+09	0.4240E+09	0.3640E+09	0.3123E+09	0.2679E+09	0.2297E+09	0.1968E+09	0.1687E+09	0.1445E+09	0.1239E+09
0.1061E+09									

3.0GEV

0.0	0.0	0.1605E-01	0.4431E+01	0.3662E+03	0.1211E+05	0.2127E+06	0.2082E+07	0.1225E+08	0.4959E+08
0.1499E+09	0.3593E+09	0.7163E+09	0.1234E+10	0.1891E+10	0.2644E+10	0.3435E+10	0.4209E+10	0.4921E+10	0.5541E+10
0.6054E+10	0.6453E+10	0.6743E+10	0.6930E+10	0.7027E+10	0.7044E+10	0.6995E+10	0.6889E+10	0.6737E+10	0.6543E+10
0.6305E+10	0.6021E+10	0.5689E+10	0.5312E+10	0.4898E+10	0.4460E+10	0.4015E+10	0.3578E+10	0.3160E+10	0.2772E+10
0.2416E+10	0.2097E+10	0.1814E+10	0.1565E+10	0.1348E+10	0.1159E+10	0.9954E+09	0.8544E+09	0.7327E+09	0.6281E+09
0.5381E+09	0.4608E+09	0.3945E+09	0.3377E+09	0.2891E+09	0.2474E+09	0.2118E+09	0.1813E+09	0.1553E+09	0.1330E+09
0.1139E+09									

4.0GEV

0.1786E+03	0.7296E+04	0.1453E+06	0.1670E+07	0.1098E+08	0.4841E+08	0.1564E+09	0.3954E+09	0.8223E+09	0.1464E+10
0.2306E+10	0.3293E+10	0.4351E+10	0.5404E+10	0.6387E+10	0.7257E+10	0.7985E+10	0.8563E+10	0.8991E+10	0.9279E+10
0.9441E+10	0.9492E+10	0.9449E+10	0.9329E+10	0.9145E+10	0.8910E+10	0.8637E+10	0.8333E+10	0.8006E+10	0.7655E+10
0.7277E+10	0.6865E+10	0.6416E+10	0.5932E+10	0.5421E+10	0.4898E+10	0.4379E+10	0.3878E+10	0.3407E+10	0.2973E+10
0.2582E+10	0.2233E+10	0.1925E+10	0.1656E+10	0.1423E+10	0.1221E+10	0.1047E+10	0.8974E+09	0.7687E+09	0.6583E+09
0.5635E+09	0.4823E+09	0.4127E+09	0.3531E+09	0.3022E+09	0.2586E+09	0.2213E+09	0.1895E+09	0.1622E+09	0.1389E+09
0.1189E+09									

5.0GEV

0.1719E+07	0.1180E+08	0.5374E+08	0.1782E+09	0.4596E+09	0.9712E+09	0.1752E+10	0.2787E+10	0.4012E+10	0.5336E+10
0.6661E+10	0.7907E+10	0.9014E+10	0.9946E+10	0.1069E+11	0.1125E+11	0.1162E+11	0.1184E+11	0.1192E+11	0.1188E+11
0.1174E+11	0.1151E+11	0.1123E+11	0.1089E+11	0.1051E+11	0.1011E+11	0.9690E+10	0.9258E+10	0.8817E+10	0.8366E+10
0.7898E+10	0.7405E+10	0.6882E+10	0.6329E+10	0.5757E+10	0.5179E+10	0.4612E+10	0.4070E+10	0.3565E+10	0.3103E+10
0.2688E+10	0.2320E+10	0.1997E+10	0.1715E+10	0.1471E+10	0.1261E+10	0.1080E+10	0.9256E+09	0.7929E+09	0.6793E+09
0.5821E+09	0.4987E+09	0.4273E+09	0.3661E+09	0.3136E+09	0.2686E+09	0.2301E+09	0.1971E+09	0.1688E+09	0.1446E+09
0.1239E+09									

Table 20

SYNCHROTRON RADIATION SPECTRUM FOR MIRROR BOX 3 (SEYA N5) WITH THE SYNCHROTRON OPERATING AT 1.2.3.4.5GEV

SPECTRA ARE LISTED AT LOGARITHMIC INCREMENTS OF1/10TH OF A DECADE FROM 0.1 TO 100.000 ANGSTROMS
IN UNITS OF PHOTONS/MA BEAM/SEC INTO A 0.1% BANDWIDTH

1.0GEV

0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.3400E-03	0.2319E+00	0.2676E+02	0.1154E+04
0.2374E+05	0.2855E+06	0.1944E+07	0.8819E+07	0.2922E+08	0.7546E+08	0.1598E+09	0.2885E+09	0.4587E+09	0.6574E+09
0.8648E+09	0.1059E+10	0.1220E+10	0.1334E+10	0.1397E+10	0.1410E+10	0.1381E+10	0.1319E+10	0.1234E+10	0.1136E+10
0.1032E+10	0.9274E+09	0.8266E+09	0.7318E+09	0.6444E+09	0.5648E+09	0.4933E+09	0.4293E+09	0.3726E+09	0.3225E+09
0.2786E+09	0.2402E+09	0.2068E+09	0.1778E+09	0.1528E+09	0.1311E+09	0.1125E+09	0.9653E+08	0.8278E+08	0.7098E+08
0.6086E+08									

2.0GEV

0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1018E-02	0.6418E+00	0.7158E+02
0.3004E+04	0.6075E+05	0.7143E+06	0.4773E+07	0.2130E+08	0.6956E+08	0.1773E+09	0.3712E+09	0.6646E+09	0.1051E+10
0.1505E+10	0.1993E+10	0.2479E+10	0.2934E+10	0.3335E+10	0.3670E+10	0.3931E+10	0.4115E+10	0.4217E+10	0.4234E+10
0.4167E+10	0.4022E+10	0.3811E+10	0.3550E+10	0.3258E+10	0.2952E+10	0.2645E+10	0.2350E+10	0.2072E+10	0.1817E+10
0.1586E+10	0.1380E+10	0.1197E+10	0.1037E+10	0.8962E+09	0.7740E+09	0.6679E+09	0.5759E+09	0.4963E+09	0.4275E+09
0.3679E+09	0.3165E+09	0.2720E+09	0.2337E+09	0.2006E+09	0.1722E+09	0.1477E+09	0.1267E+09	0.1087E+09	0.9316E+08
0.7987E+08									

3.0GEV

0.0	0.0	0.1532E-01	0.4228E+01	0.3494E+03	0.1155E+05	0.2030E+06	0.1987E+07	0.1169E+08	0.4732E+08
0.1430E+09	0.3429E+09	0.6836E+09	0.1177E+10	0.1805E+10	0.2523E+10	0.3278E+10	0.4016E+10	0.4696E+10	0.5288E+10
0.5777E+10	0.6158E+10	0.6435E+10	0.6613E+10	0.6705E+10	0.6719E+10	0.6662E+10	0.6537E+10	0.6341E+10	0.6075E+10
0.5742E+10	0.5352E+10	0.4920E+10	0.4467E+10	0.4010E+10	0.3565E+10	0.3144E+10	0.2755E+10	0.2402E+10	0.2085E+10
0.1805E+10	0.1559E+10	0.1345E+10	0.1158E+10	0.9971E+09	0.8577E+09	0.7374E+09	0.6336E+09	0.5441E+09	0.4671E+09
0.4007E+09	0.3437E+09	0.2946E+09	0.2526E+09	0.2164E+09	0.1855E+09	0.1589E+09	0.1362E+09	0.1167E+09	0.1000E+09
0.8570E+08									

4.0GEV

0.1705E+03	0.6962E+04	0.1387E+06	0.1594E+07	0.1048E+08	0.4620E+08	0.1493E+09	0.3773E+09	0.7847E+09	0.1397E+10
0.2201E+10	0.3142E+10	0.4152E+10	0.5157E+10	0.6095E+10	0.6925E+10	0.7620E+10	0.8172E+10	0.8580E+10	0.8855E+10
0.9009E+10	0.9058E+10	0.9018E+10	0.8902E+10	0.8726E+10	0.8498E+10	0.8223E+10	0.7899E+10	0.7522E+10	0.7089E+10
0.6603E+10	0.6075E+10	0.5522E+10	0.4963E+10	0.4416E+10	0.3897E+10	0.3414E+10	0.2974E+10	0.2580E+10	0.2231E+10
0.1924E+10	0.1657E+10	0.1425E+10	0.1224E+10	0.1052E+10	0.9029E+09	0.7750E+09	0.6651E+09	0.5706E+09	0.4893E+09
0.4195E+09	0.3596E+09	0.3082E+09	0.2641E+09	0.2262E+09	0.1938E+09	0.1661E+09	0.1423E+09	0.1219E+09	0.1045E+09
0.8952E+08									

5.0GEV

0.1641E+07	0.1126E+08	0.5128E+08	0.1700E+09	0.4386E+09	0.9268E+09	0.1672E+10	0.2660E+10	0.3829E+10	0.5092E+10
0.6357E+10	0.7546E+10	0.8602E+10	0.9492E+10	0.1020E+11	0.1073E+11	0.1109E+11	0.1130E+11	0.1138E+11	0.1134E+11
0.1120E+11	0.1099E+11	0.1071E+11	0.1039E+11	0.1003E+11	0.9642E+10	0.9223E+10	0.8771E+10	0.8277E+10	0.7737E+10
0.7153E+10	0.6537E+10	0.5907E+10	0.5281E+10	0.4677E+10	0.4110E+10	0.3587E+10	0.3116E+10	0.2695E+10	0.2324E+10
0.2001E+10	0.1719E+10	0.1476E+10	0.1267E+10	0.1086E+10	0.9319E+09	0.7993E+09	0.6858E+09	0.5884E+09	0.5049E+09
0.4333E+09	0.3719E+09	0.3191E+09	0.2737E+09	0.2348E+09	0.2013E+09	0.1726E+09	0.1480E+09	0.1269E+09	0.1088E+09
0.9323E+08									

SYNCHROTRON RADIATION SPECTRUM FOR GRAZING INCIDENCE SPECTROMETER (N6) WITH THE SYNCHROTRON OPERATING AT 1,2,3,4&5GEV

SPECTRA ARE LISTED AT LOGARITHMIC INCREMENTS OF1/10TH OF A DECADE FROM 0.1 TO 100.000 ANGSTROMS
IN UNITS OF PHOTONS/MA BEAM/SEC INTO A 0.1% BANDWIDTH

1.0GEV

0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.2076E-03	0.8749E-01	0.9015E+01	0.3467E+03
0.6527E+04	0.6906E+05	0.4150E+06	0.1670E+07	0.4911E+07	0.1125E+08	0.2111E+08	0.3380E+08	0.4772E+08	0.6093E+08
0.7187E+08	0.7960E+08	0.8388E+08	0.8500E+08	0.8350E+08	0.8003E+08	0.7523E+08	0.6963E+08	0.6365E+08	0.5762E+08
0.5174E+08	0.4615E+08	0.4096E+08	0.3618E+08	0.3185E+08	0.2794E+08	0.2443E+08	0.2131E+08	0.1853E+08	0.1608E+08
0.1392E+08	0.1203E+08	0.1038E+08	0.8943E+07	0.7698E+07	0.6621E+07	0.5690E+07	0.4888E+07	0.4198E+07	0.3603E+07
0.3093E+07									

2.0GEV

0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1071E-02	0.4448E+00	0.4504E+02
0.1708E+04	0.3190E+05	0.3331E+06	0.1979E+07	0.7880E+07	0.2293E+08	0.5199E+08	0.9673E+08	0.1538E+09	0.2159E+09
0.2745E+09	0.3229E+09	0.3572E+09	0.3763E+09	0.3816E+09	0.3753E+09	0.3604E+09	0.3396E+09	0.3151E+09	0.2888E+09
0.2622E+09	0.2361E+09	0.2113E+09	0.1881E+09	0.1666E+09	0.1471E+09	0.1295E+09	0.1137E+09	0.9959E+08	0.8707E+08
0.7599E+08	0.6622E+08	0.5764E+08	0.5010E+08	0.4351E+08	0.3775E+08	0.3272E+08	0.2834E+08	0.2453E+08	0.2121E+08
0.1832E+08	0.1581E+08	0.1363E+08	0.1174E+08	0.1010E+08	0.8686E+07	0.7465E+07	0.6413E+07	0.5508E+07	0.4728E+07
0.4058E+07									

3.0GEV

0.0	0.0	0.1520E-01	0.3807E+01	0.2917E+03	0.8869E+04	0.1456E+06	0.1279E+07	0.6773E+07	0.2466E+08
0.6685E+08	0.1433E+09	0.2549E+09	0.3911E+09	0.5337E+09	0.6640E+09	0.7677E+09	0.8378E+09	0.8735E+09	0.8785E+09
0.8588E+09	0.8207E+09	0.7704E+09	0.7130E+09	0.6523E+09	0.5912E+09	0.5319E+09	0.4757E+09	0.4232E+09	0.3750E+09
0.3311E+09	0.2915E+09	0.2560E+09	0.2243E+09	0.1962E+09	0.1713E+09	0.1494E+09	0.1301E+09	0.1132E+09	0.9835E+08
0.8539E+08	0.7408E+08	0.6422E+08	0.5563E+08	0.4816E+08	0.4166E+08	0.3601E+08	0.3110E+08	0.2683E+08	0.2313E+08
0.1992E+08	0.1715E+08	0.1475E+08	0.1267E+08	0.1089E+08	0.9351E+07	0.8028E+07	0.6891E+07	0.5914E+07	0.5074E+07
0.4354E+07									

4.0GEV

0.1710E+03	0.6571E+04	0.1236E+06	0.1312E+07	0.7870E+07	0.3158E+08	0.9246E+08	0.2107E+09	0.3936E+09	0.6278E+09
0.8835E+09	0.1126E+10	0.1327E+10	0.1471E+10	0.1552E+10	0.1576E+10	0.1552E+10	0.1492E+10	0.1408E+10	0.1308E+10
0.1200E+10	0.1091E+10	0.9832E+09	0.8808E+09	0.7849E+09	0.6963E+09	0.6155E+09	0.5425E+09	0.4768E+09	0.4182E+09
0.3661E+09	0.3199E+09	0.2792E+09	0.2433E+09	0.2118E+09	0.1842E+09	0.1600E+09	0.1389E+09	0.1205E+09	0.1044E+09
0.9048E+08	0.7833E+08	0.6778E+08	0.5862E+08	0.5067E+08	0.4377E+08	0.3779E+08	0.3261E+08	0.2811E+08	0.2422E+08
0.2085E+08	0.1793E+08	0.1542E+08	0.1325E+08	0.1138E+08	0.9771E+07	0.8388E+07	0.7199E+07	0.6178E+07	0.5301E+07
0.4548E+07									

5.0GEV

0.1563E+07	0.9955E+07	0.4185E+08	0.1272E+09	0.2988E+09	0.5718E+09	0.9298E+09	0.1329E+10	0.1715E+10	0.2040E+10
0.2278E+10	0.2418E+10	0.2467E+10	0.2439E+10	0.2351E+10	0.2223E+10	0.2069E+10	0.1901E+10	0.1730E+10	0.1561E+10
0.1399E+10	0.1248E+10	0.1108E+10	0.9794E+09	0.8635E+09	0.7593E+09	0.6662E+09	0.5833E+09	0.5099E+09	0.4451E+09
0.3880E+09	0.3379E+09	0.2939E+09	0.2554E+09	0.2218E+09	0.1924E+09	0.1669E+09	0.1446E+09	0.1252E+09	0.1084E+09
0.9375E+08	0.8106E+08	0.7006E+08	0.6053E+08	0.5227E+08	0.4513E+08	0.3894E+08	0.3360E+08	0.2898E+08	0.2498E+08
0.2153E+08	0.1854E+08	0.1596E+08	0.1373E+08	0.1181E+08	0.1015E+08	0.8720E+07	0.7489E+07	0.6430E+07	0.5519E+07
0.4737E+07									

Table 22

SYNCHROTRON RADIATION SPECTRUM FOR NORMAL INCIDENCE SPECTROMETER (51) WITH THE SYNCHROTRON OPERATING AT 1.2,3.465GEV

SPECTRA ARE LISTED AT LOGARITHMIC INCREMENTS OF1/10TH OF A DECADE FROM 0.1 TO 100.000 ANGSTROMS
IN UNITS OF PHOTONS/MA BEAM/SEC INTO A 0.1% BANDWIDTH

1.0GEV

0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.1772E-02	0.1208E+01	0.1395E+03	0.6015E+04
0.1237E+06	0.1488E+07	0.1013E+08	0.4596E+08	0.1523E+09	0.3933E+09	0.8326E+09	0.1505E+10	0.2397E+10	0.3453E+10
0.4590E+10	0.5723E+10	0.6776E+10	0.7688E+10	0.8411E+10	0.8909E+10	0.9161E+10	0.9168E+10	0.8948E+10	0.8542E+10
0.7996E+10	0.7363E+10	0.6685E+10	0.6001E+10	0.5336E+10	0.4709E+10	0.4129E+10	0.3602E+10	0.3129E+10	0.2708E+10
0.2337E+10	0.2012E+10	0.1729E+10	0.1484E+10	0.1273E+10	0.1091E+10	0.9341E+09	0.7999E+09	0.6848E+09	0.5864E+09
0.5021E+09									

2.0GEV

0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5306E-02	0.3345E+01	0.3730E+03
0.1566E+05	0.3166E+06	0.3722E+07	0.2487E+08	0.1110E+09	0.3625E+09	0.9240E+09	0.1934E+10	0.3464E+10	0.5476E+10
0.7844E+10	0.1039E+11	0.1292E+11	0.1529E+11	0.1738E+11	0.1913E+11	0.2051E+11	0.2153E+11	0.2221E+11	0.2258E+11
0.2269E+11	0.2256E+11	0.2221E+11	0.2165E+11	0.2088E+11	0.1988E+11	0.1868E+11	0.1732E+11	0.1584E+11	0.1432E+11
0.1280E+11	0.1134E+11	0.9964E+10	0.8705E+10	0.7568E+10	0.6555E+10	0.5662E+10	0.4881E+10	0.4201E+10	0.3611E+10
0.3101E+10	0.2660E+10	0.2281E+10	0.1954E+10	0.1674E+10	0.1433E+10	0.1227E+10	0.1050E+10	0.8992E+09	0.7698E+09
0.6591E+09									

3.0GEV

0.0	0.0	0.7983E-01	0.2204E+02	0.1821E+04	0.6021E+05	0.1058E+07	0.1035E+08	0.6090E+08	0.2466E+09
0.7454E+09	0.1787E+10	0.3562E+10	0.6135E+10	0.9406E+10	0.1315E+11	0.1708E+11	0.2093E+11	0.2447E+11	0.2756E+11
0.3011E+11	0.3209E+11	0.3353E+11	0.3446E+11	0.3494E+11	0.3503E+11	0.3479E+11	0.3427E+11	0.3353E+11	0.3261E+11
0.3156E+11	0.3039E+11	0.2911E+11	0.2770E+11	0.2615E+11	0.2444E+11	0.2259E+11	0.2063E+11	0.1863E+11	0.1664E+11
0.1473E+11	0.1293E+11	0.1128E+11	0.9791E+10	0.8465E+10	0.7296E+10	0.6275E+10	0.5386E+10	0.4617E+10	0.3954E+10
0.3383E+10	0.2894E+10	0.2474E+10	0.2115E+10	0.1807E+10	0.1545E+10	0.1321E+10	0.1129E+10	0.9661E+09	0.8265E+09
0.7072E+09									

4.0GEV

0.8883E+03	0.3628E+05	0.7227E+06	0.8305E+07	0.5462E+08	0.2407E+09	0.7780E+09	0.1966E+10	0.4089E+10	0.7282E+10
0.1147E+11	0.1638E+11	0.2164E+11	0.2687E+11	0.3176E+11	0.3609E+11	0.3971E+11	0.4258E+11	0.4471E+11	0.4615E+11
0.4695E+11	0.4720E+11	0.4699E+11	0.4639E+11	0.4548E+11	0.4431E+11	0.4295E+11	0.4145E+11	0.3984E+11	0.3816E+11
0.3644E+11	0.3469E+11	0.3289E+11	0.3102E+11	0.2903E+11	0.2693E+11	0.2472E+11	0.2243E+11	0.2014E+11	0.1790E+11
0.1577E+11	0.1380E+11	0.1200E+11	0.1038E+11	0.8951E+10	0.7698E+10	0.6607E+10	0.5662E+10	0.4847E+10	0.4146E+10
0.3545E+10	0.3029E+10	0.2588E+10	0.2212E+10	0.1890E+10	0.1615E+10	0.1380E+10	0.1180E+10	0.1009E+10	0.8634E+09
0.7388E+09									

5.0GEV

0.8550E+07	0.5869E+08	0.2673E+09	0.8861E+09	0.2286E+10	0.4830E+10	0.8712E+10	0.1386E+11	0.1995E+11	0.2653E+11
0.3313E+11	0.3932E+11	0.4483E+11	0.4946E+11	0.5316E+11	0.5593E+11	0.5781E+11	0.5889E+11	0.5928E+11	0.5908E+11
0.5837E+11	0.5726E+11	0.5583E+11	0.5415E+11	0.5229E+11	0.5028E+11	0.4819E+11	0.4605E+11	0.4388E+11	0.4172E+11
0.3957E+11	0.3744E+11	0.3531E+11	0.3314E+11	0.3088E+11	0.2853E+11	0.2609E+11	0.2359E+11	0.2112E+11	0.1872E+11
0.1645E+11	0.1435E+11	0.1245E+11	0.1076E+11	0.9262E+10	0.7955E+10	0.6821E+10	0.5842E+10	0.5001E+10	0.4280E+10
0.3662E+10	0.3133E+10	0.2680E+10	0.2292E+10	0.1961E+10	0.1677E+10	0.1435E+10	0.1228E+10	0.1050E+10	0.8989E+09
0.7694E+09									

Table 23

SYNCHROTRON RADIATION SPECTRUM FOR VERTICAL WADSWORTH (S2) WITH THE SYNCHROTRON OPERATING AT 1.2000000GEV

SPECTRA ARE LISTED AT LOGARITHMIC INCREMENTS OF1/10TH OF A DECADE FROM 0.1 TO 100.000 ANGSTROMS
IN UNITS OF PHOTONS/MA BEAM/SEC INTO A 0.1% BANDWIDTH

1.0GEV

0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.6915E-03	0.4716E+00	0.5443E+02	0.2347E+04
0.4829E+05	0.5807E+06	0.3953E+07	0.1794E+08	0.5943E+08	0.1535E+09	0.3248E+09	0.5864E+09	0.9312E+09	0.1332E+10
0.1746E+10	0.2129E+10	0.2441E+10	0.2657E+10	0.2769E+10	0.2783E+10	0.2715E+10	0.2585E+10	0.2413E+10	0.2217E+10
0.2011E+10	0.1805E+10	0.1608E+10	0.1423E+10	0.1253E+10	0.1098E+10	0.9586E+09	0.8344E+09	0.7242E+09	0.6270E+09
0.5416E+09	0.4670E+09	0.4021E+09	0.3458E+09	0.2971E+09	0.2551E+09	0.2190E+09	0.1878E+09	0.1611E+09	0.1382E+09
0.1185E+09									

2.0GEV

0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2071E-02	0.1305E+01	0.1456E+03
0.6110E+04	0.1236E+06	0.1453E+07	0.9707E+07	0.4333E+08	0.1415E+09	0.3606E+09	0.7550E+09	0.1352E+10	0.2137E+10
0.3061E+10	0.4054E+10	0.5043E+10	0.5967E+10	0.6782E+10	0.7461E+10	0.7986E+10	0.8345E+10	0.8528E+10	0.8529E+10
0.8354E+10	0.8021E+10	0.7561E+10	0.7010E+10	0.6407E+10	0.5784E+10	0.5169E+10	0.4581E+10	0.4034E+10	0.3533E+10
0.3081E+10	0.2679E+10	0.2324E+10	0.2012E+10	0.1740E+10	0.1503E+10	0.1297E+10	0.1119E+10	0.9642E+09	0.8307E+09
0.7151E+09	0.6152E+09	0.5289E+09	0.4545E+09	0.3903E+09	0.3350E+09	0.2874E+09	0.2466E+09	0.2115E+09	0.1813E+09
0.1555E+09									

3.0GEV

0.0	0.0	0.3116E-01	0.8600E+01	0.7107E+03	0.2350E+05	0.4129E+06	0.4040E+07	0.2377E+08	0.9625E+08
0.2909E+09	0.6973E+09	0.1390E+10	0.2394E+10	0.3671E+10	0.5132E+10	0.6667E+10	0.8169E+10	0.9551E+10	0.1075E+11
0.1176E+11	0.1253E+11	0.1309E+11	0.1345E+11	0.1363E+11	0.1366E+11	0.1353E+11	0.1324E+11	0.1280E+11	0.1221E+11
0.1148E+11	0.1065E+11	0.9737E+10	0.8799E+10	0.7867E+10	0.6972E+10	0.6133E+10	0.5363E+10	0.4669E+10	0.4050E+10
0.3504E+10	0.3026E+10	0.2609E+10	0.2248E+10	0.1935E+10	0.1665E+10	0.1431E+10	0.1230E+10	0.1057E+10	0.9075E+09
0.7788E+09	0.6681E+09	0.5729E+09	0.4911E+09	0.4210E+09	0.3608E+09	0.3092E+09	0.2650E+09	0.2271E+09	0.1946E+09
0.1668E+09									

4.0GEV

0.3467E+03	0.1416E+05	0.2820E+06	0.3241E+07	0.2132E+08	0.9395E+08	0.3036E+09	0.7675E+09	0.1596E+10	0.2842E+10
0.4475E+10	0.6391E+10	0.8444E+10	0.1049E+11	0.1240E+11	0.1408E+11	0.1550E+11	0.1662E+11	0.1745E+11	0.1801E+11
0.1832E+11	0.1842E+11	0.1834E+11	0.1811E+11	0.1774E+11	0.1727E+11	0.1669E+11	0.1599E+11	0.1518E+11	0.1424E+11
0.1319E+11	0.1207E+11	0.1092E+11	0.9766E+10	0.8657E+10	0.7614E+10	0.6655E+10	0.5787E+10	0.5013E+10	0.4331E+10
0.3733E+10	0.3214E+10	0.2763E+10	0.2375E+10	0.2040E+10	0.1752E+10	0.1504E+10	0.1291E+10	0.1108E+10	0.9507E+09
0.8153E+09	0.6990E+09	0.5992E+09	0.5135E+09	0.4400E+09	0.3771E+09	0.3231E+09	0.2769E+09	0.2372E+09	0.2033E+09
0.1742E+09									

5.0GEV

0.3337E+07	0.2291E+08	0.1043E+09	0.3458E+09	0.8920E+09	0.1885E+10	0.3400E+10	0.5409E+10	0.7787E+10	0.1036E+11
0.1293E+11	0.1535E+11	0.1749E+11	0.1930E+11	0.2075E+11	0.2183E+11	0.2256E+11	0.2298E+11	0.2314E+11	0.2306E+11
0.2278E+11	0.2235E+11	0.2179E+11	0.2113E+11	0.2040E+11	0.1959E+11	0.1872E+11	0.1775E+11	0.1669E+11	0.1553E+11
0.1428E+11	0.1298E+11	0.1167E+11	0.1039E+11	0.9163E+10	0.8026E+10	0.6990E+10	0.6060E+10	0.5235E+10	0.4511E+10
0.3881E+10	0.3334E+10	0.2863E+10	0.2457E+10	0.2108E+10	0.1808E+10	0.1552E+10	0.1331E+10	0.1143E+10	0.9810E+09
0.8421E+09	0.7228E+09	0.6204E+09	-0.5323E+09	0.4566E+09	0.3917E+09	0.3359E+09	0.2880E+09	0.2469E+09	0.2117E+09
0.1815E+09									

Table 24

SYNCHROTRON RADIATION SPECTRUM FOR X-RAY WINDOW (MRC S3) WITH THE SYNCHROTRON OPERATING AT 1,2,3,4&5GEV

SPECTRA ARE LISTED AT LOGARITHMIC INCREMENTS OF1/10TH OF A DECADE FROM 0.1 TO 100,000 ANGSTROMS
IN UNITS OF PHOTONS/MA BEAM/SEC INTO A 0.1% BANDWIDTH

1.0GEV

0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.3329E-03	0.1402E+00	0.1444E+02	0.5550E+03
0.1044E+05	0.1105E+06	0.6636E+06	0.2670E+07	0.7849E+07	0.1797E+08	0.3373E+08	0.5401E+08	0.7623E+08	0.9734E+08
0.1148E+09	0.1271E+09	0.1340E+09	0.1358E+09	0.1334E+09	0.1278E+09	0.1202E+09	0.1112E+09	0.1017E+09	0.9203E+08
0.8264E+08	0.7372E+08	0.6542E+08	0.5779E+08	0.5087E+08	0.4462E+08	0.3902E+08	0.3403E+08	0.2960E+08	0.2568E+08
0.2223E+08	0.1921E+08	0.1658E+08	0.1428E+08	0.1230E+08	0.1058E+08	0.9089E+07	0.7808E+07	0.6705E+07	0.5756E+07
0.4940E+07									

2.0GEV

0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1760E-02	0.7200E+00	0.7270E+02
0.2751E+04	0.5130E+05	0.5348E+06	0.3174E+07	0.1262E+08	0.3670E+08	0.8320E+08	0.1547E+09	0.2459E+09	0.3451E+09
0.4387E+09	0.5160E+09	0.5707E+09	0.6012E+09	0.6096E+09	0.5995E+09	0.5757E+09	0.5424E+09	0.5033E+09	0.4613E+09
0.4188E+09	0.3771E+09	0.3375E+09	0.3004E+09	0.2662E+09	0.2350E+09	0.2069E+09	0.1816E+09	0.1591E+09	0.1391E+09
0.1214E+09	0.1058E+09	0.9206E+08	0.8003E+08	0.6950E+08	0.6030E+08	0.5227E+08	0.4527E+08	0.3918E+08	0.3388E+08
0.2926E+08	0.2525E+08	0.2177E+08	0.1875E+08	0.1613E+08	0.1387E+08	0.1192E+08	0.1024E+08	0.8797E+07	0.7553E+07
0.6483E+07									

3.0GEV

0.0	0.0	0.2520E-01	0.6254E+01	0.4763E+03	0.1441E+05	0.2358E+06	0.2065E+07	0.1091E+08	0.3965E+08
0.1073E+09	0.2297E+09	0.4083E+09	0.6260E+09	0.8538E+09	0.1062E+10	0.1227E+10	0.1339E+10	0.1396E+10	0.1404E+10
0.1372E+10	0.1311E+10	0.1231E+10	0.1139E+10	0.1042E+10	0.9443E+09	0.8496E+09	0.7597E+09	0.6759E+09	0.5969E+09
0.5288E+09	0.4655E+09	0.4088E+09	0.3582E+09	0.3133E+09	0.2736E+09	0.2386E+09	0.2078E+09	0.1808E+09	0.1571E+09
0.1364E+09	0.1183E+09	0.1026E+09	0.8886E+08	0.7692E+08	0.6654E+08	0.5752E+08	0.4967E+08	0.4286E+08	0.3695E+08
0.3182E+08	0.2739E+08	0.2355E+08	0.2025E+08	0.1739E+08	0.1494E+08	0.1282E+08	0.1101E+08	0.9446E+07	0.8105E+07
0.6954E+07									

4.0GEV

0.2846E+03	0.1084E+05	0.2030E+06	0.2138E+07	0.1277E+08	0.5106E+08	0.1491E+09	0.3390E+09	0.6321E+09	0.1007E+10
0.1415E+10	0.1803E+10	0.2123E+10	0.2351E+10	0.2480E+10	0.2518E+10	0.2480E+10	0.2384E+10	0.2248E+10	0.2088E+10
0.1916E+10	0.1742E+10	0.1570E+10	0.1407E+10	0.1253E+10	0.1112E+10	0.9831E+09	0.8664E+09	0.7615E+09	0.6679E+09
0.5847E+09	0.5110E+09	0.4459E+09	0.3886E+09	0.3383E+09	0.2942E+09	0.2556E+09	0.2219E+09	0.1925E+09	0.1668E+09
0.1445E+09	0.1251E+09	0.1083E+09	0.9363E+08	0.8093E+08	0.6992E+08	0.6037E+08	0.5208E+08	0.4490E+08	0.3868E+08
0.3330E+08	0.2864E+08	0.2463E+08	0.2116E+08	0.1818E+08	0.1561E+08	0.1340E+08	0.1150E+08	0.9868E+07	0.8467E+07
0.7264E+07									

5.0GEV

0.2580E+07	0.1631E+08	0.6817E+08	0.2063E+09	0.4828E+09	0.9214E+09	0.1495E+10	0.2133E+10	0.2748E+10	0.3267E+10
0.3645E+10	0.3867E+10	0.3943E+10	0.3896E+10	0.3756E+10	0.3550E+10	0.3304E+10	0.3036E+10	0.2762E+10	0.2493E+10
0.2234E+10	0.1992E+10	0.1769E+10	0.1564E+10	0.1379E+10	0.1213E+10	0.1064E+10	0.9316E+09	0.8144E+09	0.7109E+09
0.6197E+09	0.5396E+09	0.4694E+09	0.4080E+09	0.3542E+09	0.3074E+09	0.2665E+09	0.2309E+09	0.2000E+09	0.1731E+09
0.1497E+09	0.1295E+09	0.1119E+09	0.9669E+08	0.8350E+08	0.7208E+08	0.6221E+08	0.5367E+08	0.4629E+08	0.3991E+08
0.3439E+08	0.2962E+08	0.2550E+08	0.2194E+08	0.1886E+08	0.1621E+08	0.1393E+08	0.1196E+08	0.1027E+08	0.8816E+07
0.7566E+07									

SYNCHROTRON RADIATION SPECTRUM FOR X-RAY WINDOW (CRYSTAL MONOCHR. S4) WITH THE SYNCHROTRON OPERATING AT 1.2[illegible]GEV

SPECTRA ARE LISTED AT LOGARITHMIC INCREMENTS OF1/10TH OF A DECADE FROM 0.1 TO 100.000 ANGSTROMS
IN UNITS OF PHOTONS/MA BEAM/SEC INTO A 0.1% BANDWIDTH

1.0GEV

0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.7183E-03	0.4899E+00	0.5654E+02	0.2439E+04
0.5016E+05	0.6032E+06	0.4105E+07	0.1861E+08	0.6145E+08	0.1575E+09	0.3289E+09	0.5809E+09	0.8948E+09	0.1232E+10
0.1549E+10	0.1808E+10	0.1988E+10	0.2083E+10	0.2100E+10	0.2052E+10	0.1957E+10	0.1830E+10	0.1685E+10	0.1532E+10
0.1380E+10	0.1233E+10	0.1094E+10	0.9665E+09	0.8501E+09	0.7450E+09	0.6508E+09	0.5668E+09	0.4924E+09	0.4267E+09
0.3690E+09	0.3186E+09	0.2746E+09	0.2364E+09	0.2033E+09	0.1747E+09	0.1501E+09	0.1288E+09	0.1106E+09	0.9487E+08
0.8139E+08									

2.0GEV

0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2151E-02	0.1356E+01	0.1512E+03
0.6347E+04	0.1283E+06	0.1509E+07	0.1008E+08	0.4501E+08	0.1470E+09	0.3746E+09	0.7843E+09	0.1404E+10	0.2220E+10
0.3179E+10	0.4205E+10	0.5213E+10	0.6122E+10	0.6862E+10	0.7384E+10	0.7663E+10	0.7705E+10	0.7538E+10	0.7203E+10
0.6750E+10	0.6223E+10	0.5662E+10	0.5096E+10	0.4547E+10	0.4029E+10	0.3551E+10	0.3116E+10	0.2725E+10	0.2377E+10
0.2069E+10	0.1797E+10	0.1560E+10	0.1352E+10	0.1170E+10	0.1013E+10	0.8757E+09	0.7567E+09	0.6535E+09	0.5640E+09
0.4864E+09	0.4191E+09	0.3608E+09	0.3104E+09	0.2668E+09	0.2293E+09	0.1969E+09	0.1690E+09	0.1451E+09	0.1245E+09
0.1068E+09									

3.0GEV

0.0	0.0	0.3236E-01	0.8933E+01	0.7382E+03	0.2441E+05	0.4289E+06	0.4197E+07	0.2469E+08	0.9998E+08
0.3022E+09	0.7243E+09	0.1444E+10	0.2487E+10	0.3813E+10	0.5331E+10	0.6926E+10	0.8485E+10	0.9921E+10	0.1117E+11
0.1219E+11	0.1297E+11	0.1347E+11	0.1368E+11	0.1361E+11	0.1325E+11	0.1266E+11	0.1188E+11	0.1098E+11	0.1000E+11
0.9007E+10	0.8035E+10	0.7113E+10	0.6259E+10	0.5480E+10	0.4780E+10	0.4158E+10	0.3608E+10	0.3126E+10	0.2705E+10
0.2339E+10	0.2020E+10	0.1744E+10	0.1505E+10	0.1298E+10	0.1120E+10	0.9650E+09	0.8312E+09	0.7156E+09	0.6156E+09
0.5293E+09	0.4548E+09	0.3906E+09	0.3353E+09	0.2878E+09	0.2469E+09	0.2118E+09	0.1817E+09	0.1558E+09	0.1336E+09
0.1146E+09									

4.0GEV

0.3601E+03	0.1471E+05	0.2930E+06	0.3367E+07	0.2214E+08	0.9760E+08	0.3154E+09	0.7972E+09	0.1658E+10	0.2952E+10
0.4649E+10	0.6639E+10	0.8772E+10	0.1089E+11	0.1288E+11	0.1463E+11	0.1610E+11	0.1726E+11	0.1813E+11	0.1870E+11
0.1900E+11	0.1904E+11	0.1882E+11	0.1833E+11	0.1758E+11	0.1660E+11	0.1544E+11	0.1416E+11	0.1283E+11	0.1150E+11
0.1021E+11	0.9001E+10	0.7888E+10	0.6880E+10	0.5980E+10	0.5184E+10	0.4485E+10	0.3874E+10	0.3343E+10	0.2883E+10
0.2485E+10	0.2141E+10	0.1844E+10	0.1588E+10	0.1367E+10	0.1177E+10	0.1013E+10	0.8720E+09	0.7500E+09	0.6447E+09
0.5539E+09	0.4758E+09	0.4084E+09	0.3505E+09	0.3008E+09	0.2580E+09	0.2213E+09	0.1898E+09	0.1628E+09	0.1396E+09
0.1197E+09									

5.0GEV

0.3466E+07	0.2379E+08	0.1083E+09	0.3592E+09	0.9266E+09	0.1958E+10	0.3532E+10	0.5619E+10	0.8089E+10	0.1076E+11
0.1343E+11	0.1594E+11	0.1817E+11	0.2005E+11	0.2155E+11	0.2267E+11	0.2344E+11	0.2388E+11	0.2403E+11	0.2394E+11
0.2362E+11	0.2308E+11	0.2232E+11	0.2133E+11	0.2013E+11	0.1873E+11	0.1721E+11	0.1561E+11	0.1400E+11	0.1245E+11
0.1097E+11	0.9615E+10	0.8381E+10	0.7277E+10	0.6300E+10	0.5443E+10	0.4695E+10	0.4045E+10	0.3483E+10	0.2997E+10
0.2579E+10	0.2218E+10	0.1908E+10	0.1641E+10	0.1412E+10	0.1214E+10	0.1045E+10	0.8987E+09	0.7732E+09	0.6652E+09
0.5721E+09	0.4920E+09	0.4229E+09	0.3634E+09	0.3121E+09	0.2680E+09	0.2301E+09	0.1974E+09	0.1694E+09	0.1453E+09
0.1247E+09									

Table 26

FIGURE CAPTIONS

The data is expressed in the following units:

Figs. 1 and 2 Photons/s/mA beam/mrad horizontally within a 0.1% bandwidth.

Figs. 3 to 16 Photons/s/mA beam/mrad horizontally/mrad vertically within a 0.1% bandwidth.

Figs. 18 to 27 Photons/s/mA beam within a 0.1% bandwidth.

Fig. 1 Spectrum for total vertical acceptance vs. photon energy

Fig. 2 Spectrum for total vertical acceptance vs. photon wavelength

Fig. 3 Angular distributions for 1.0 GeV operation

Fig. 4 Angular distributions for 2.0 GeV operation

Fig. 5 Angular distributions for 3.0 GeV operation

Fig. 6 Angular distributions for 4.0 GeV operation

Fig. 7 Angular distributions for 5.0 GeV operation

Fig. 8 Angular distribution of polarised components at 10Å for 3.0 GeV operation

Fig. 9 Angular distribution of polarised components at 100Å for 3.0 GeV operation

Fig.10 Angular distribution of polarised components at 1000Å for 3.0 GeV operation

Fig.11 Angular distribution of polarised components at 10Å for 4.0 GeV operation

Fig.12 Angular distribution of polarised components at 100Å for 4.0 GeV operation

Fig.13 Angular distribution of polarised components at 1000Å for 4.0 GeV operation

Fig.14 Angular distribution of polarised components at 10Å for 5.0 GeV operation

Fig.15 Angular distribution of polarised components at 100Å for 5.0 GeV operation

Fig.16 Angular distribution of polarised components at 1000Å for 5.0 GeV operation

Fig.17 Plan of Synchrotron Radiation Facility

Fig.18 Spectra for Horizontal Wadsworth (N1)

Fig.19 Spectra for Mirror Box (N2)

Fig.20 Spectra for Horizontal Wadsworth 2 (N3)

Fig.21 Spectra for Mirror Box 2 (N4)

Fig.22 Spectra for Mirror Box 3 (N5)

Fig.23 Spectra for Grazing Incidence Spectrometer (N6)

Fig.24 Spectra for Normal Incidence Spectrometer (S1)

Fig.25 Spectra for Vertical Wadsworth (S2)

Fig.26 Spectra for MRC X-ray window (S3)

Fig.27 Spectra for Crystal Monochromator X-ray window (S4)

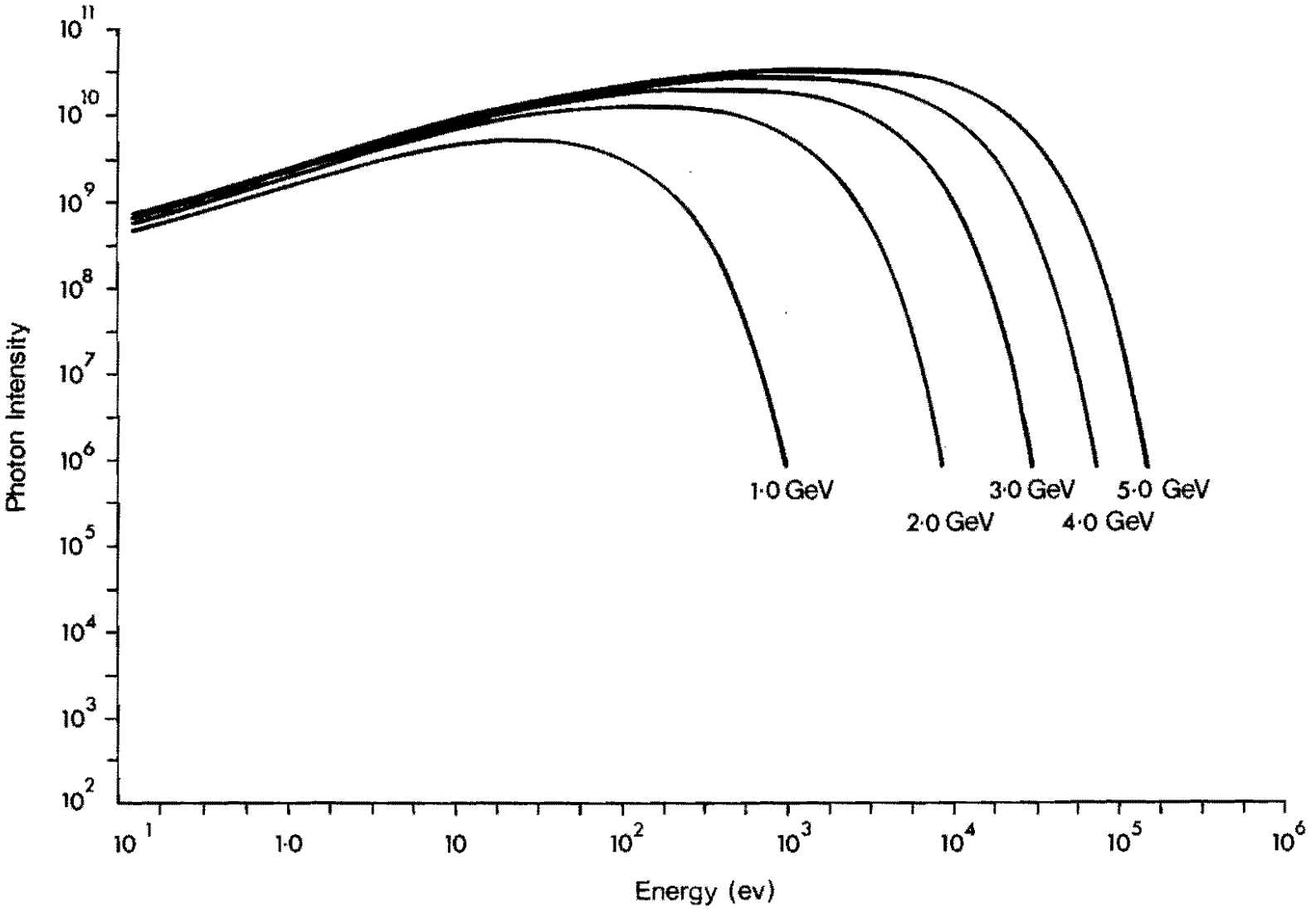
Photon Intensity
10^{11}
10^{10}
10^{9}
10^{8}
10^{7}
10^{6}
10^{5}
10^{4}
10^{3}
10^{2}
1·0 GeV
2·0 GeV
3·0 GeV
4·0 GeV
5·0 GeV
10^{1}
1·0
10
10^{2}
10^{3}
10^{4}
10^{5}
10^{6}
Energy (ev)

Fig.1

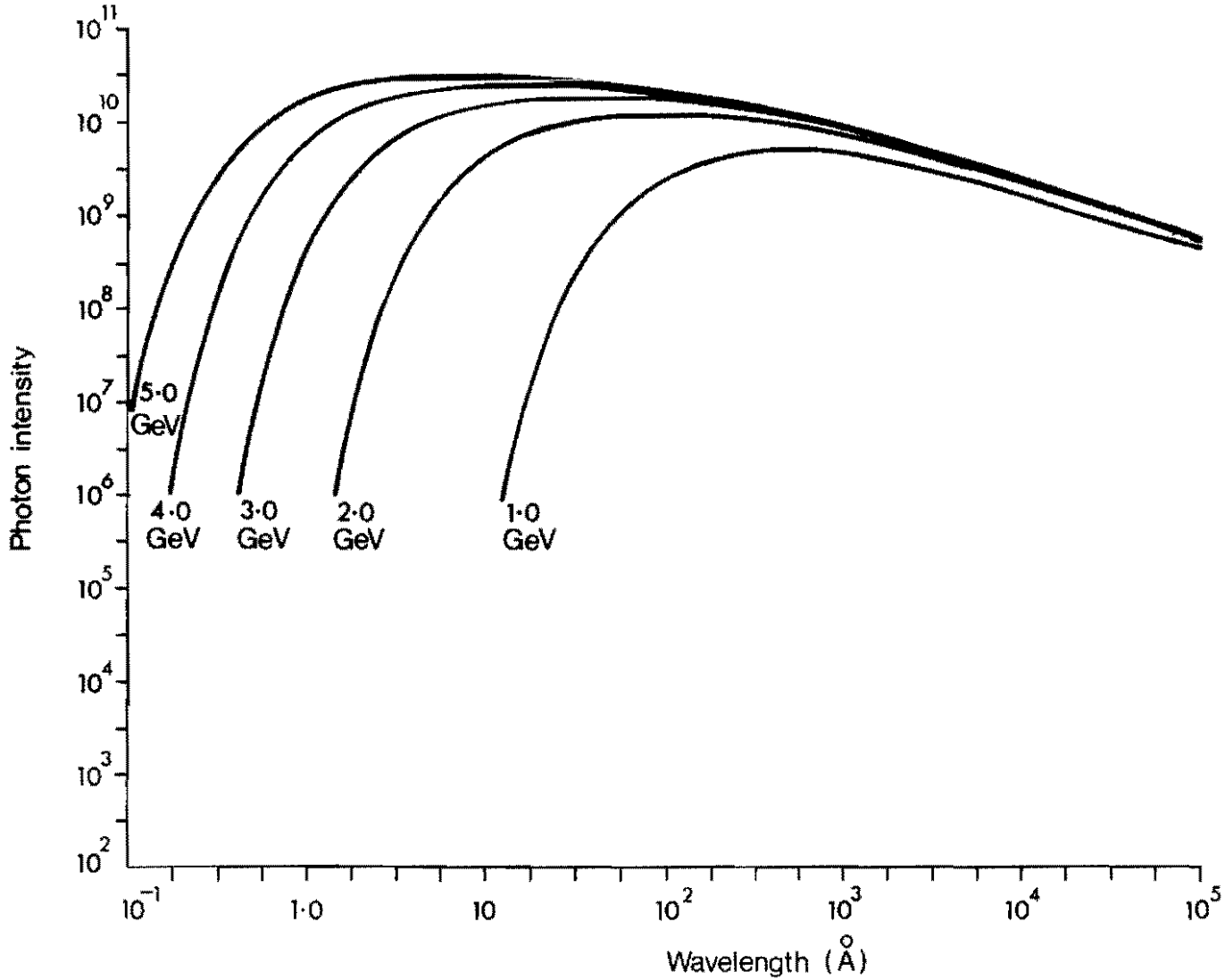
Photon intensity
10^{11}
10^{10}
10^{9}
10^{8}
10^{7}
10^{6}
10^{5}
10^{4}
10^{3}
10^{2}
5·0 GeV
4·0 GeV
3·0 GeV
2·0 GeV
1·0 GeV
10^{-1}
1·0
10
10^{2}
10^{3}
10^{4}
10^{5}
Wavelength (Å)

Fig. 2

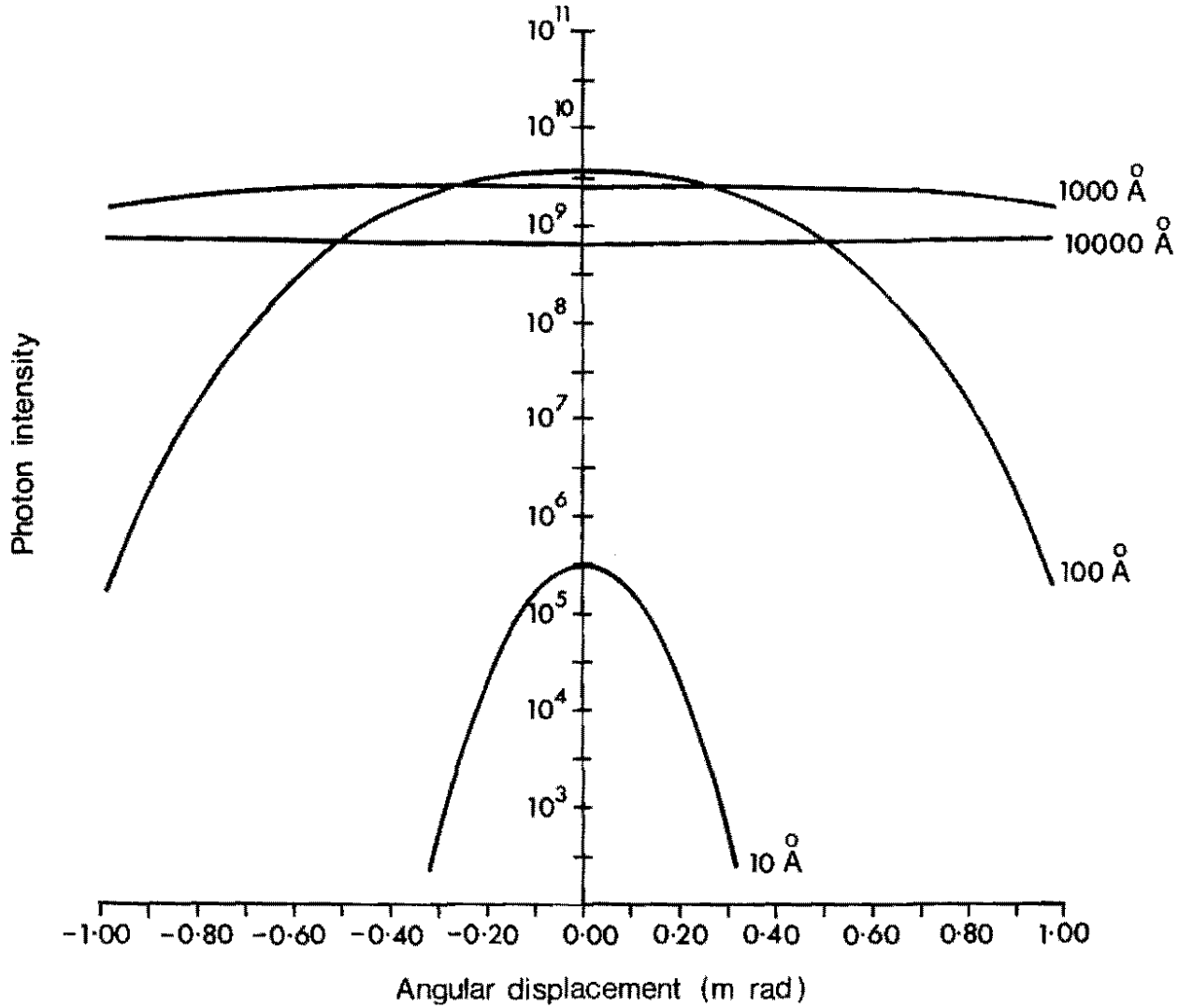
Photon intensity
10^{11}
10^{10}
10^{9}
10^{8}
10^{7}
10^{6}
10^{5}
10^{4}
10^{3}
1000 Å
10000 Å
100 Å
10 Å
-1·00 -0·80 -0·60 -0·40 -0·20 0·00 0·20 0·40 0·60 0·80 1·00
Angular displacement (m rad)

Fig. 3

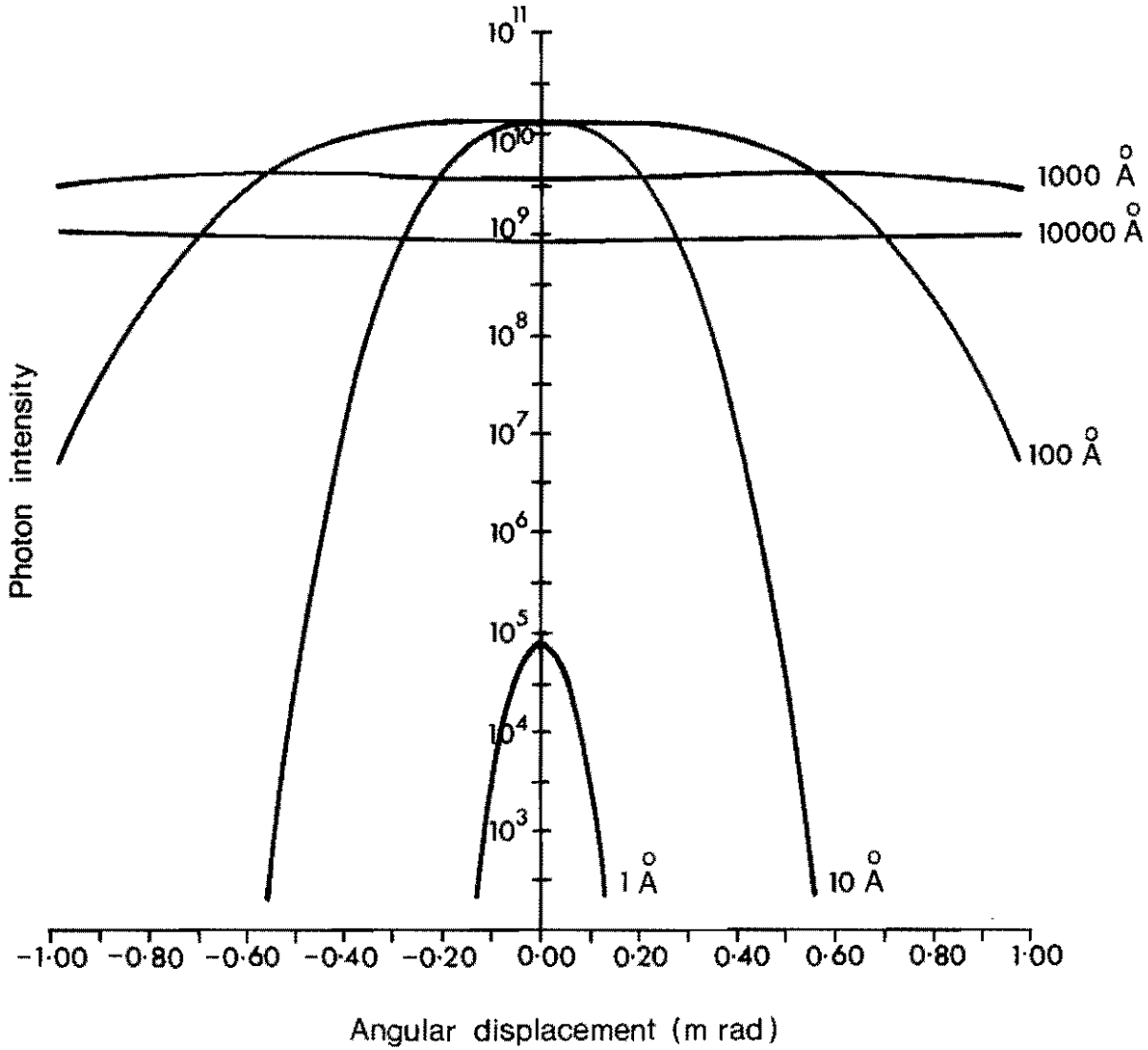
Photon intensity
10^{11}
10^{10}
10^{9}
10^{8}
10^{7}
10^{6}
10^{5}
10^{4}
10^{3}
1000 Å
10000 Å
100 Å
1 Å
10 Å
-1·00 -0·80 -0·60 -0·40 -0·20 0·00 0·20 0·40 0·60 0·80 1·00
Angular displacement (m rad)

Fig. 4

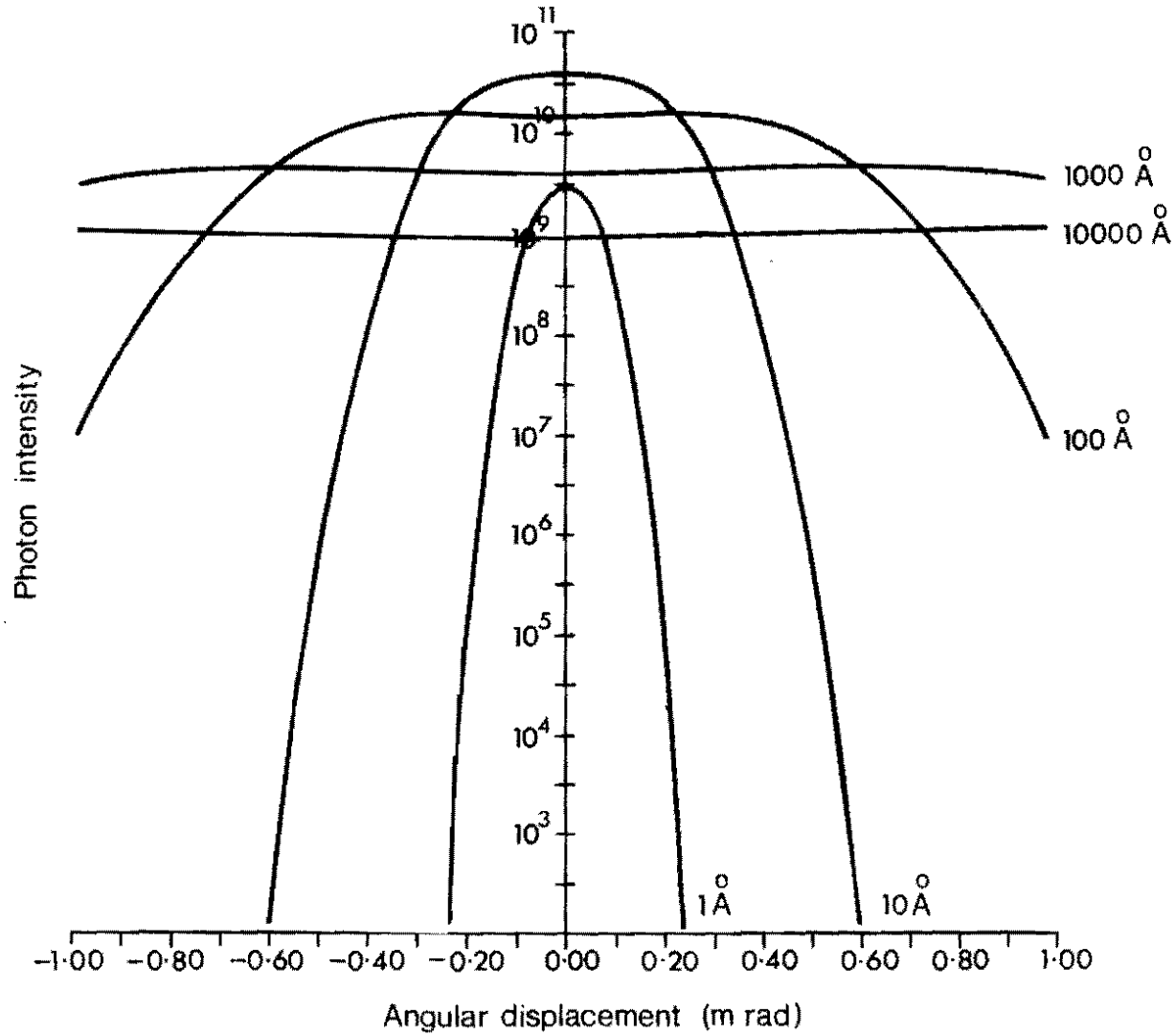
Photon intensity
10^{11}
10^{10}
10^{9}
10^{8}
10^{7}
10^{6}
10^{5}
10^{4}
10^{3}
1000 Å
10000 Å
100 Å
1 Å
10 Å
−1·00 −0·80 −0·60 −0·40 −0·20 0·00 0·20 0·40 0·60 0·80 1·00
Angular displacement (m rad)

Fig. 5

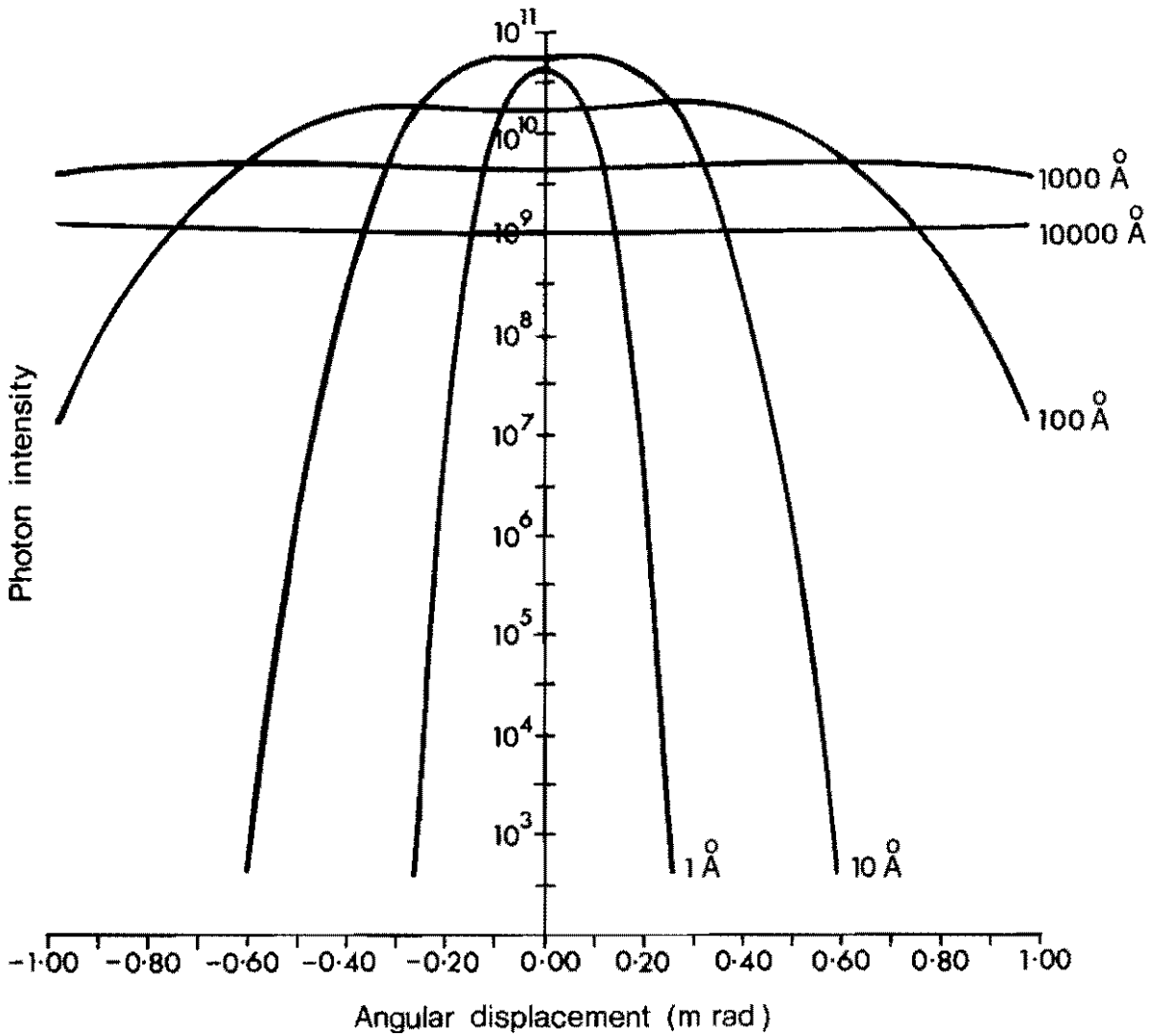
Photon intensity
10^{11}
10^{10}
10^{9}
10^{8}
10^{7}
10^{6}
10^{5}
10^{4}
10^{3}
1000 Å
10000 Å
100 Å
1 Å
10 Å
−1·00 −0·80 −0·60 −0·40 −0·20 0·00 0·20 0·40 0·60 0·80 1·00
Angular displacement (m rad)

Fig. 6

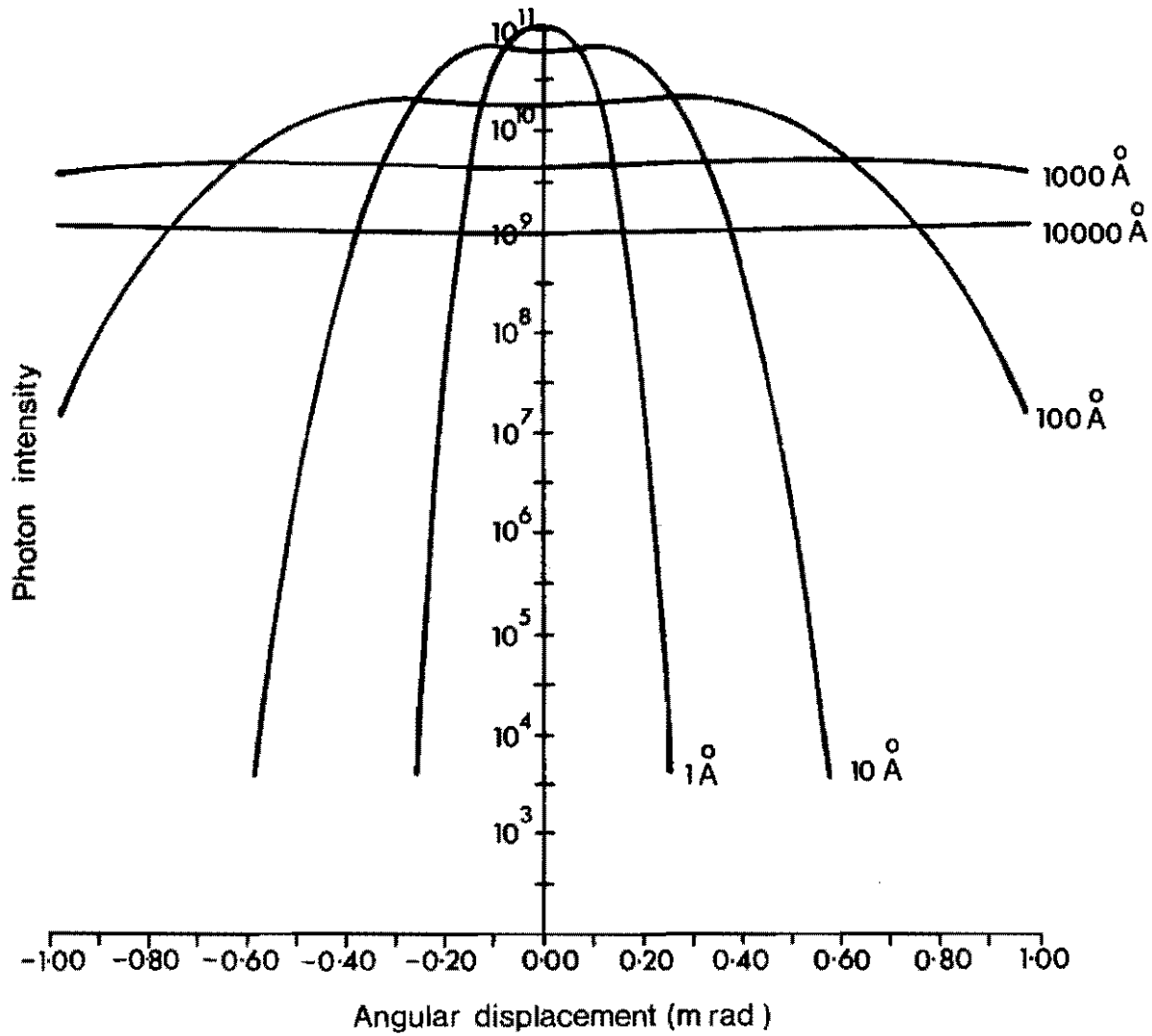
Photon intensity
10^{11}
10^{10}
10^{9}
10^{8}
10^{7}
10^{6}
10^{5}
10^{4}
10^{3}
1000 Å
10000 Å
100 Å
1 Å
10 Å
-1·00 -0·80 -0·60 -0·40 -0·20 0·00 0·20 0·40 0·60 0·80 1·00
Angular displacement (m rad)

Fig. 7

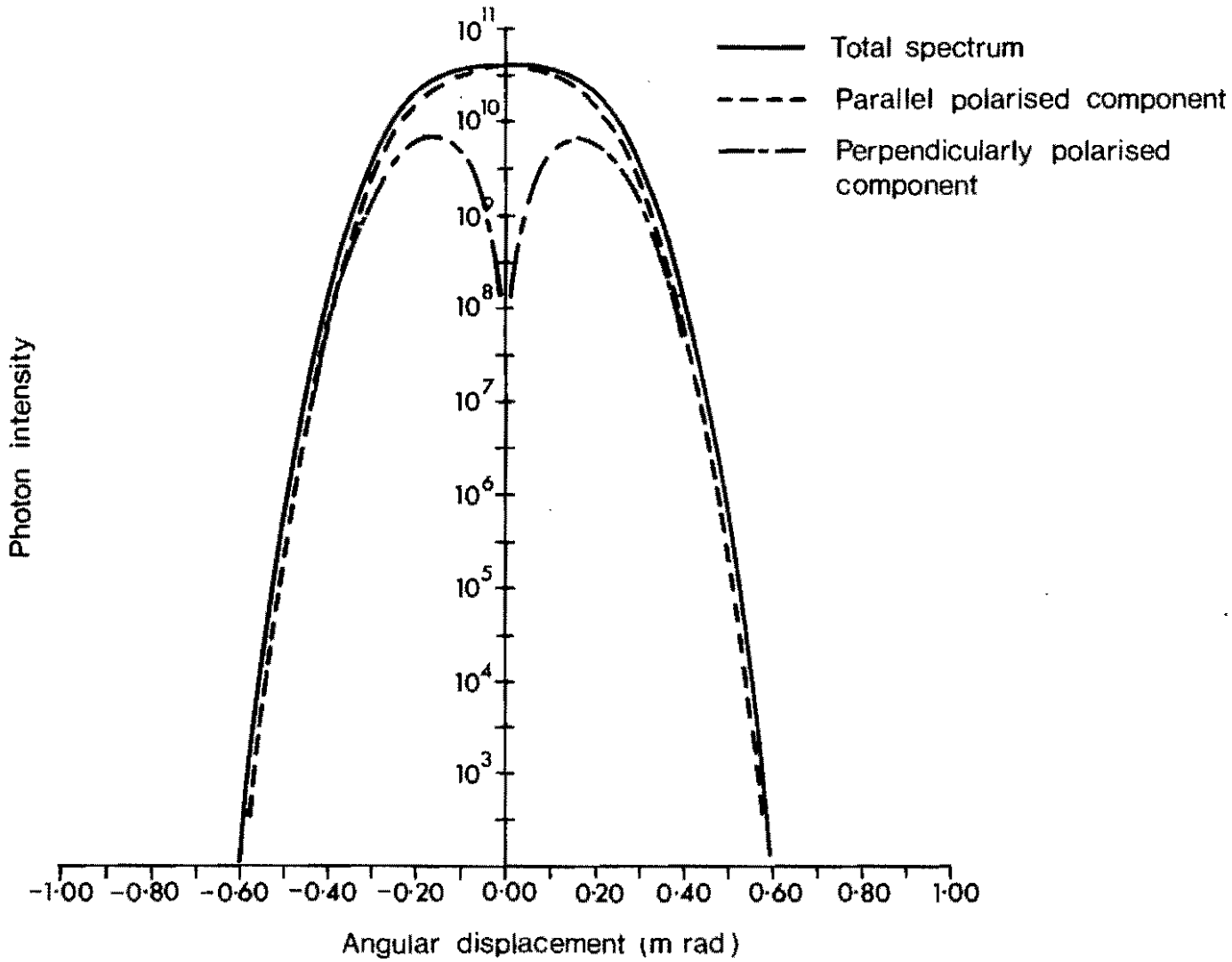
Total spectrum
Parallel polarised component
Perpendicularly polarised component
Photon intensity
10^{11}
10^{10}
10^{9}
10^{8}
10^{7}
10^{6}
10^{5}
10^{4}
10^{3}
-1·00 -0·80 -0·60 -0·40 -0·20 0·00 0·20 0·40 0·60 0·80 1·00
Angular displacement (m rad)

Fig. 8

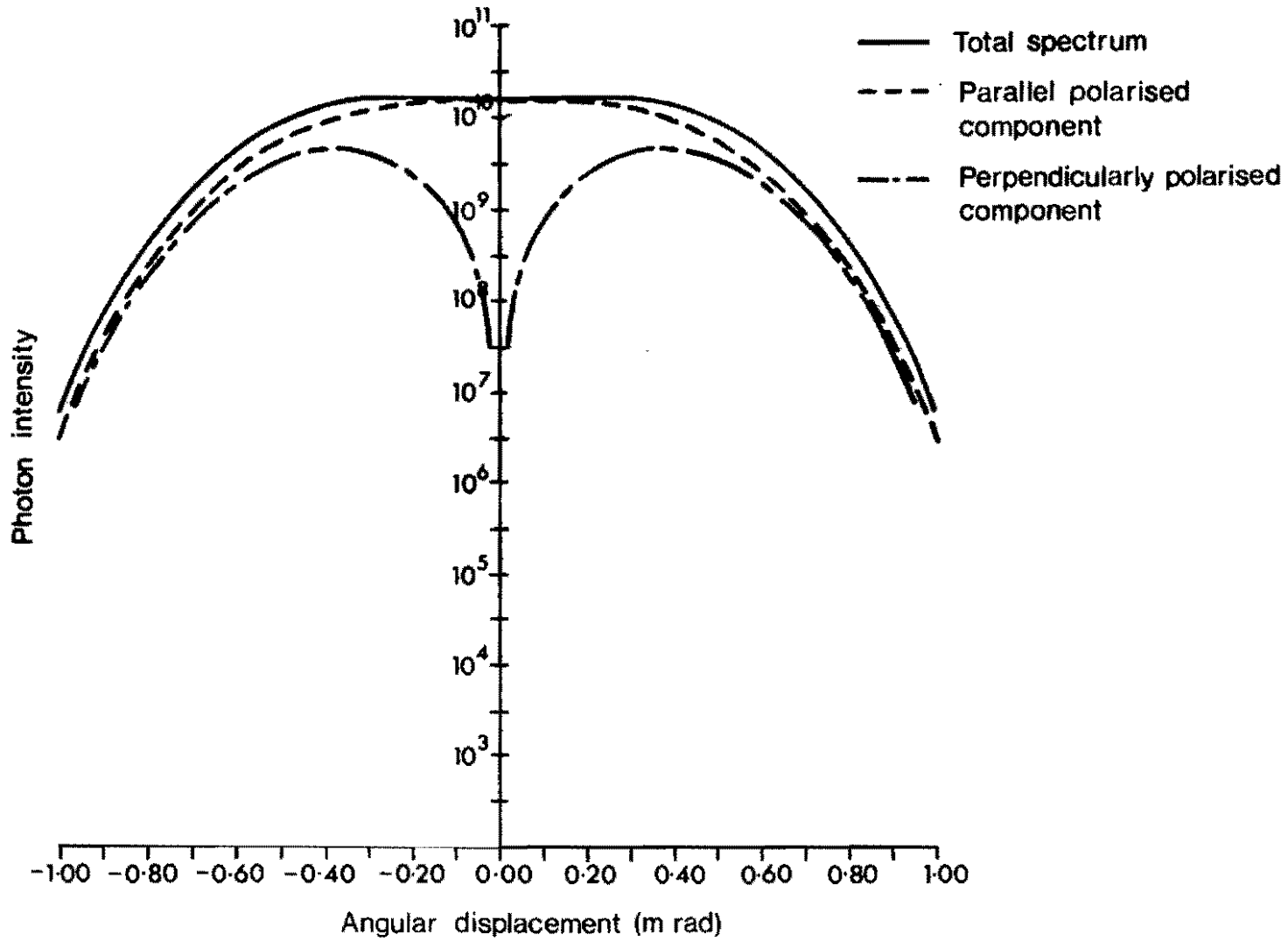
Total spectrum
Parallel polarised component
Perpendicularly polarised component
Photon intensity
10^{11}
10^{10}
10^{9}
10^{8}
10^{7}
10^{6}
10^{5}
10^{4}
10^{3}
-1·00 -0·80 -0·60 -0·40 -0·20 0·00 0·20 0·40 0·60 0·80 1·00
Angular displacement (m rad)

Fig. 9

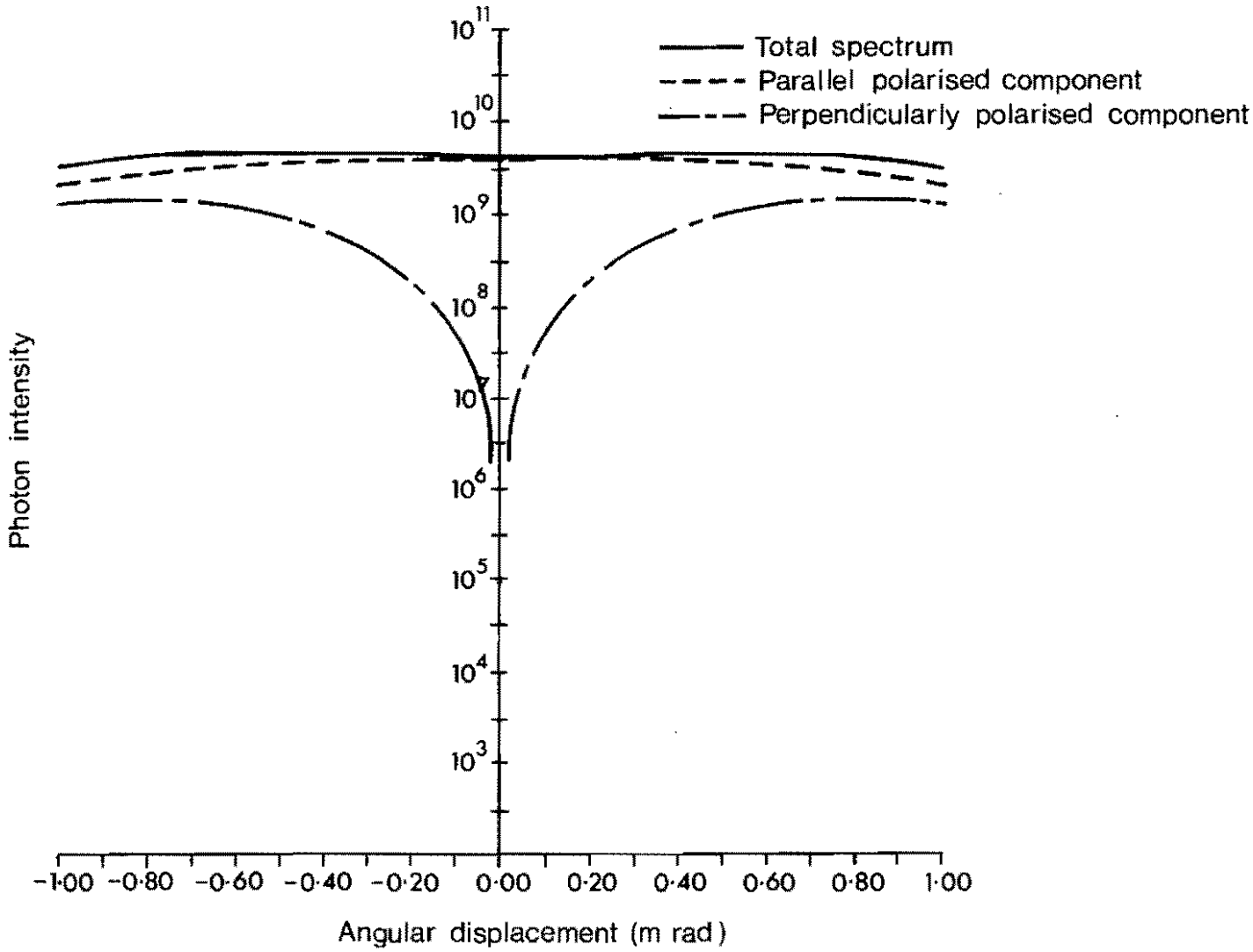
Total spectrum
Parallel polarised component
Perpendicularly polarised component
Photon intensity
10^{11}
10^{10}
10^{9}
10^{8}
10^{7}
10^{6}
10^{5}
10^{4}
10^{3}
-1·00 -0·80 -0·60 -0·40 -0·20 0·00 0·20 0·40 0·60 0·80 1·00
Angular displacement (m rad)

Fig.10

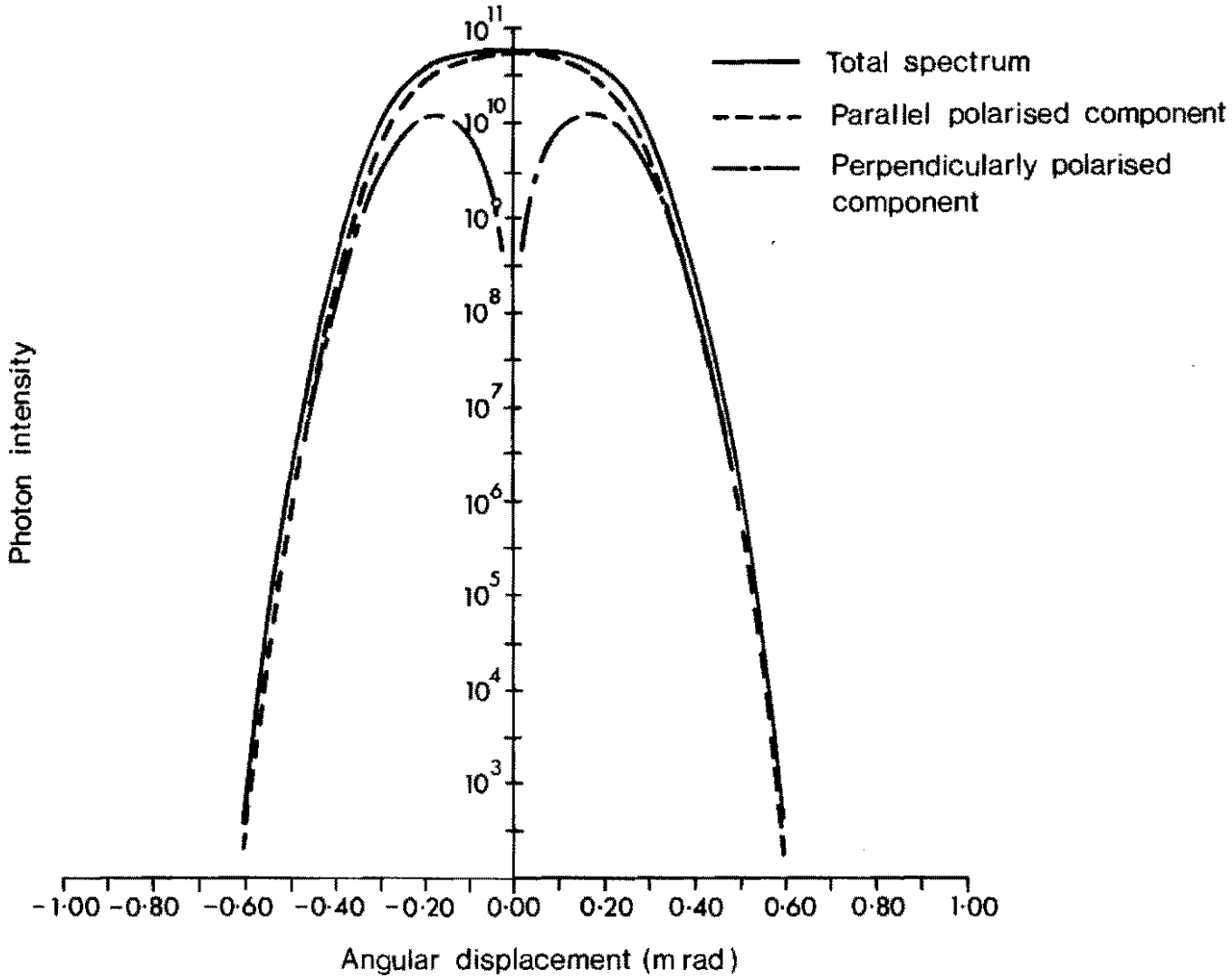
Total spectrum
Parallel polarised component
Perpendicularly polarised component
Photon intensity
10^{11}
10^{10}
10^{9}
10^{8}
10^{7}
10^{6}
10^{5}
10^{4}
10^{3}
-1·00 -0·80 -0·60 -0·40 -0·20 0·00 0·20 0·40 0·60 0·80 1·00
Angular displacement (m rad)

Fig.11

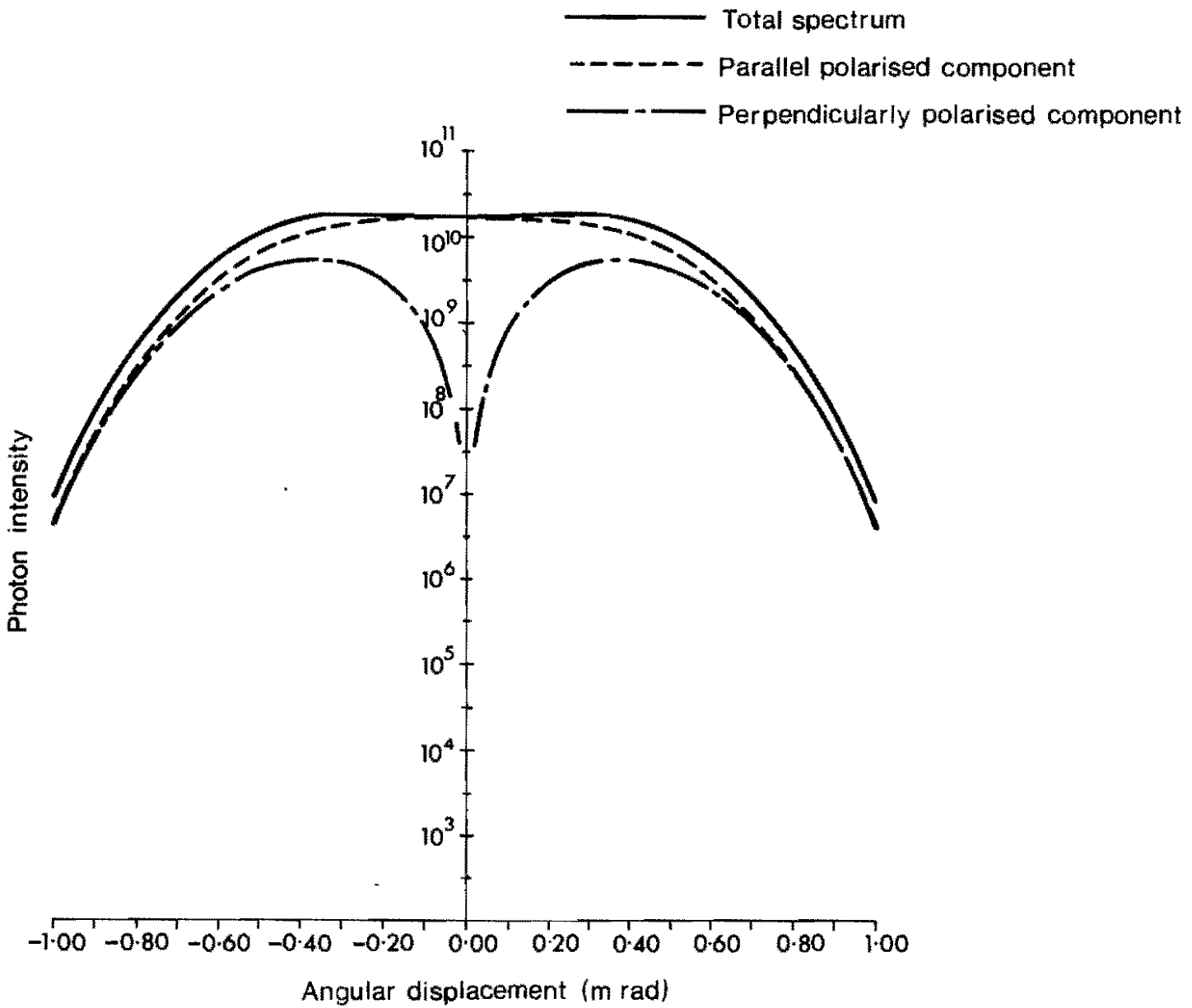
Total spectrum
Parallel polarised component
Perpendicularly polarised component
Photon intensity
10^{11}
10^{10}
10^{9}
10^{8}
10^{7}
10^{6}
10^{5}
10^{4}
10^{3}
-1·00 -0·80 -0·60 -0·40 -0·20 0·00 0·20 0·40 0·60 0·80 1·00
Angular displacement (m rad)

Fig.12

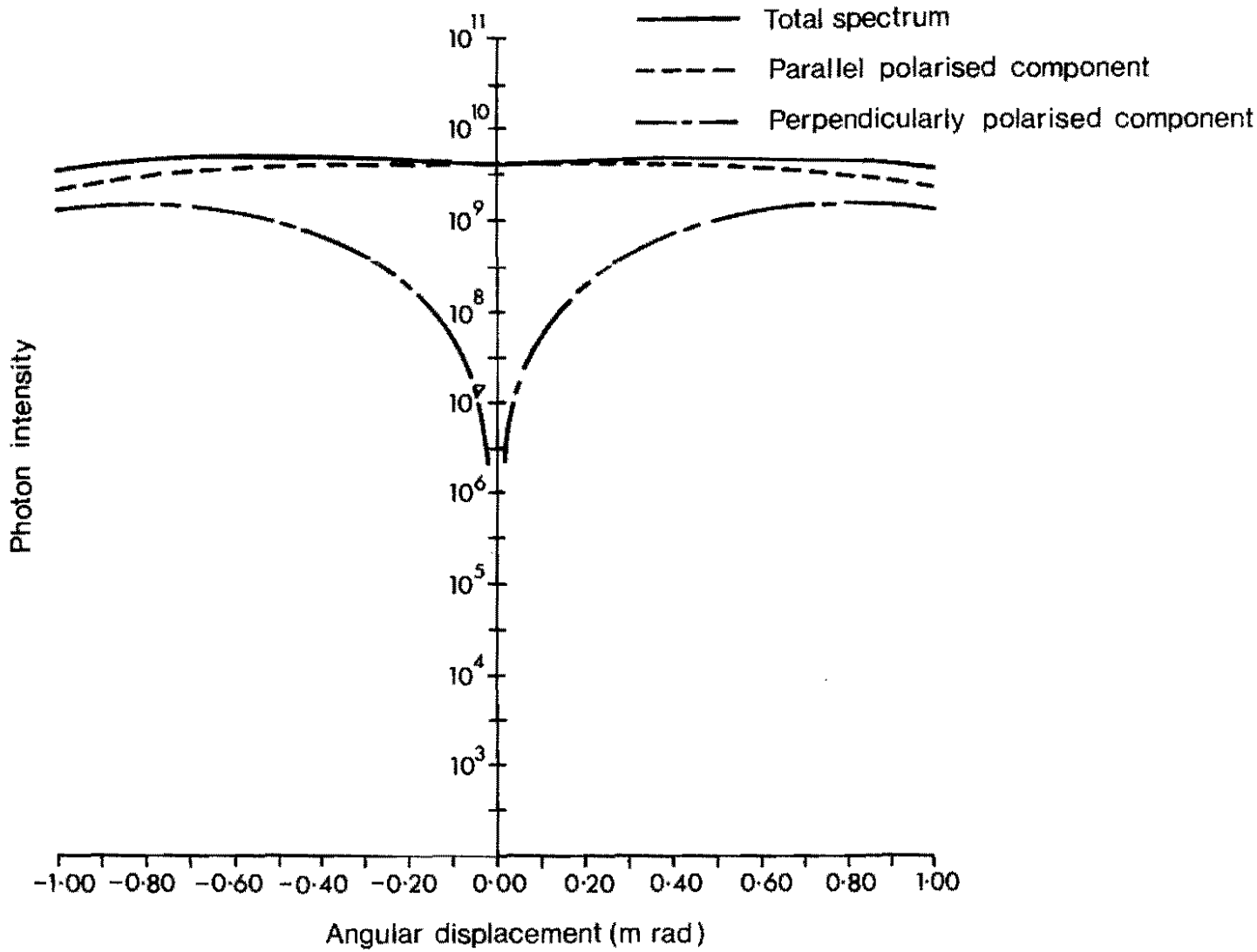
Total spectrum
Parallel polarised component
Perpendicularly polarised component
Photon intensity
10^{11}
10^{10}
10^{9}
10^{8}
10^{7}
10^{6}
10^{5}
10^{4}
10^{3}
-1·00 -0·80 -0·60 -0·40 -0·20 0·00 0·20 0·40 0·60 0·80 1·00
Angular displacement (m rad)

Fig.13

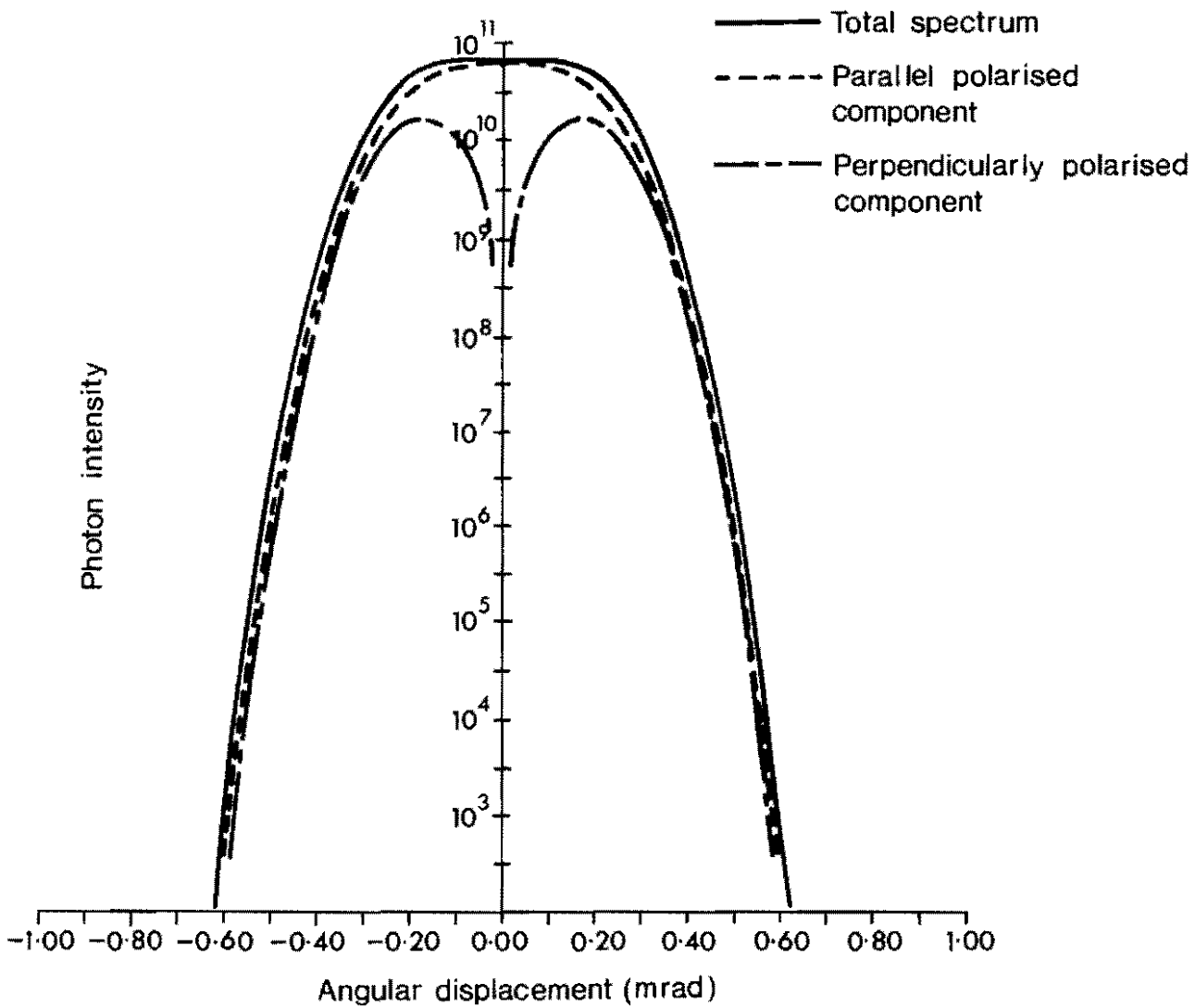
Total spectrum
Parallel polarised component
Perpendicularly polarised component
Photon intensity
10^{11}
10^{10}
10^{9}
10^{8}
10^{7}
10^{6}
10^{5}
10^{4}
10^{3}
−1·00 −0·80 −0·60 −0·40 −0·20 0·00 0·20 0·40 0·60 0·80 1·00
Angular displacement (mrad)

Fig.14

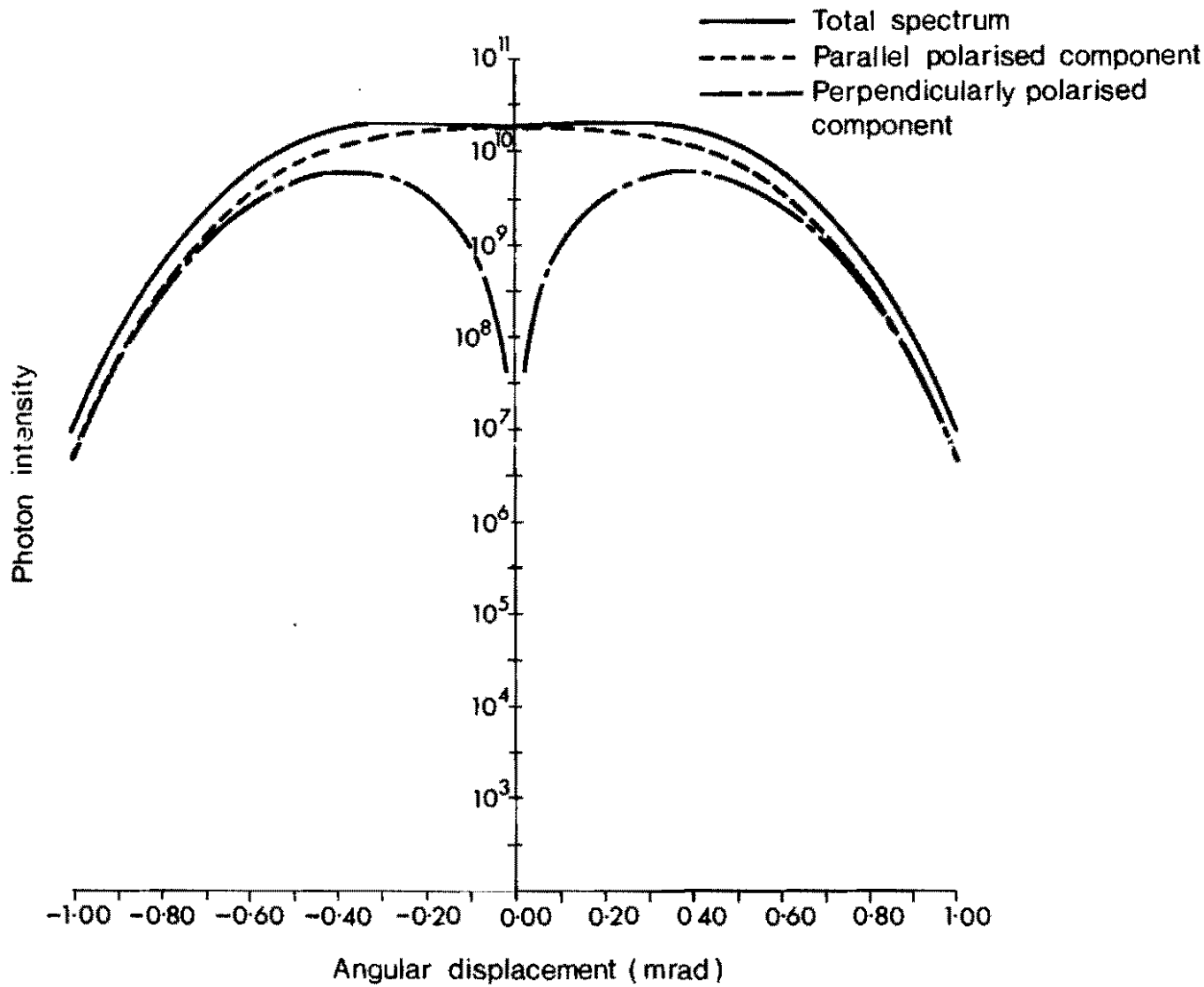
Total spectrum
Parallel polarised component
Perpendicularly polarised component
Photon intensity
10^{11}
10^{10}
10^{9}
10^{8}
10^{7}
10^{6}
10^{5}
10^{4}
10^{3}
-1·00 -0·80 -0·60 -0·40 -0·20 0·00 0·20 0·40 0·60 0·80 1·00
Angular displacement (mrad)

Fig.15

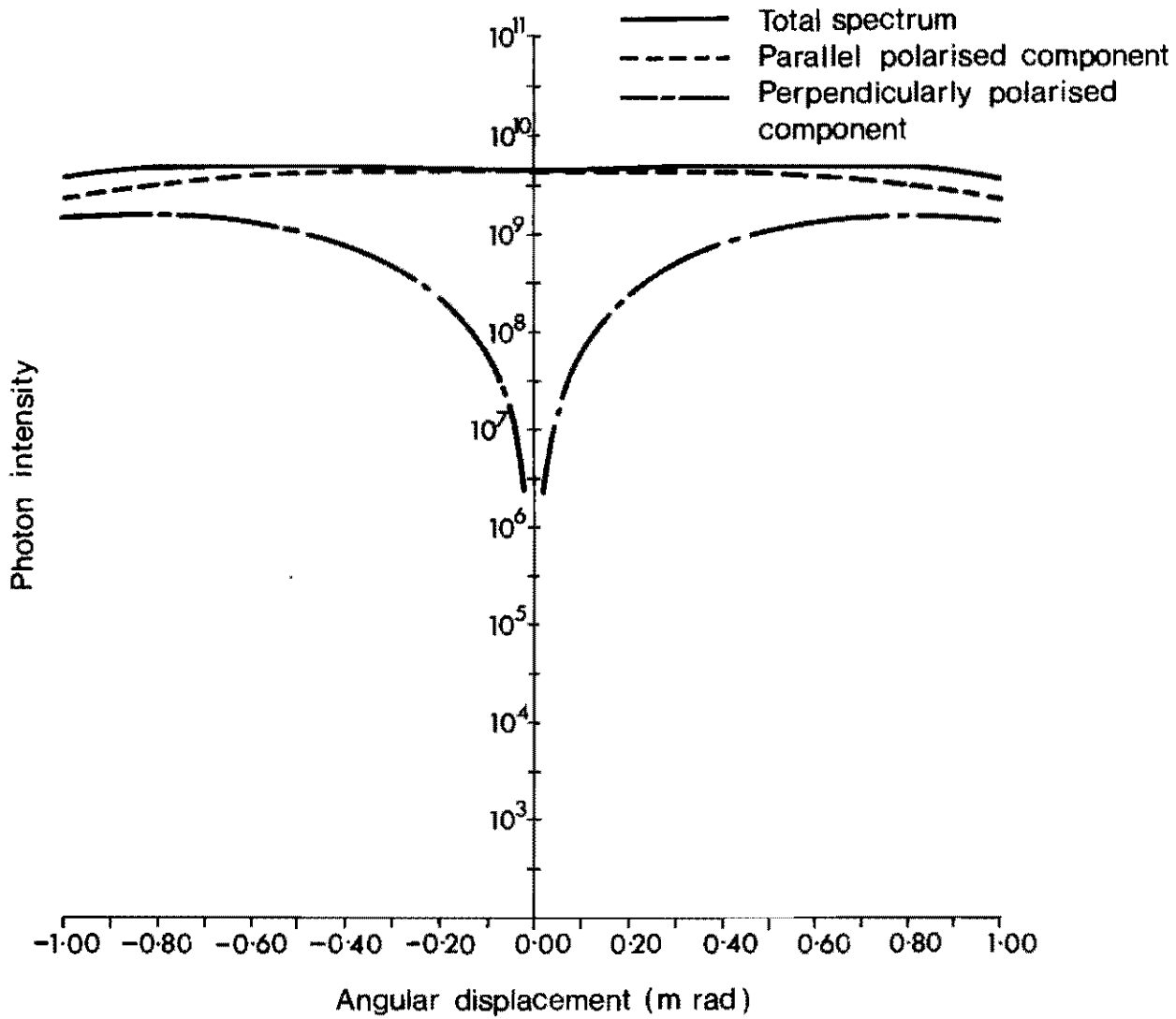
Total spectrum
Parallel polarised component
Perpendicularly polarised component
Photon intensity
10^{11}
10^{10}
10^{9}
10^{8}
10^{7}
10^{6}
10^{5}
10^{4}
10^{3}
-1·00 -0·80 -0·60 -0·40 -0·20 0·00 0·20 0·40 0·60 0·80 1·00
Angular displacement (m rad)

Fig.16

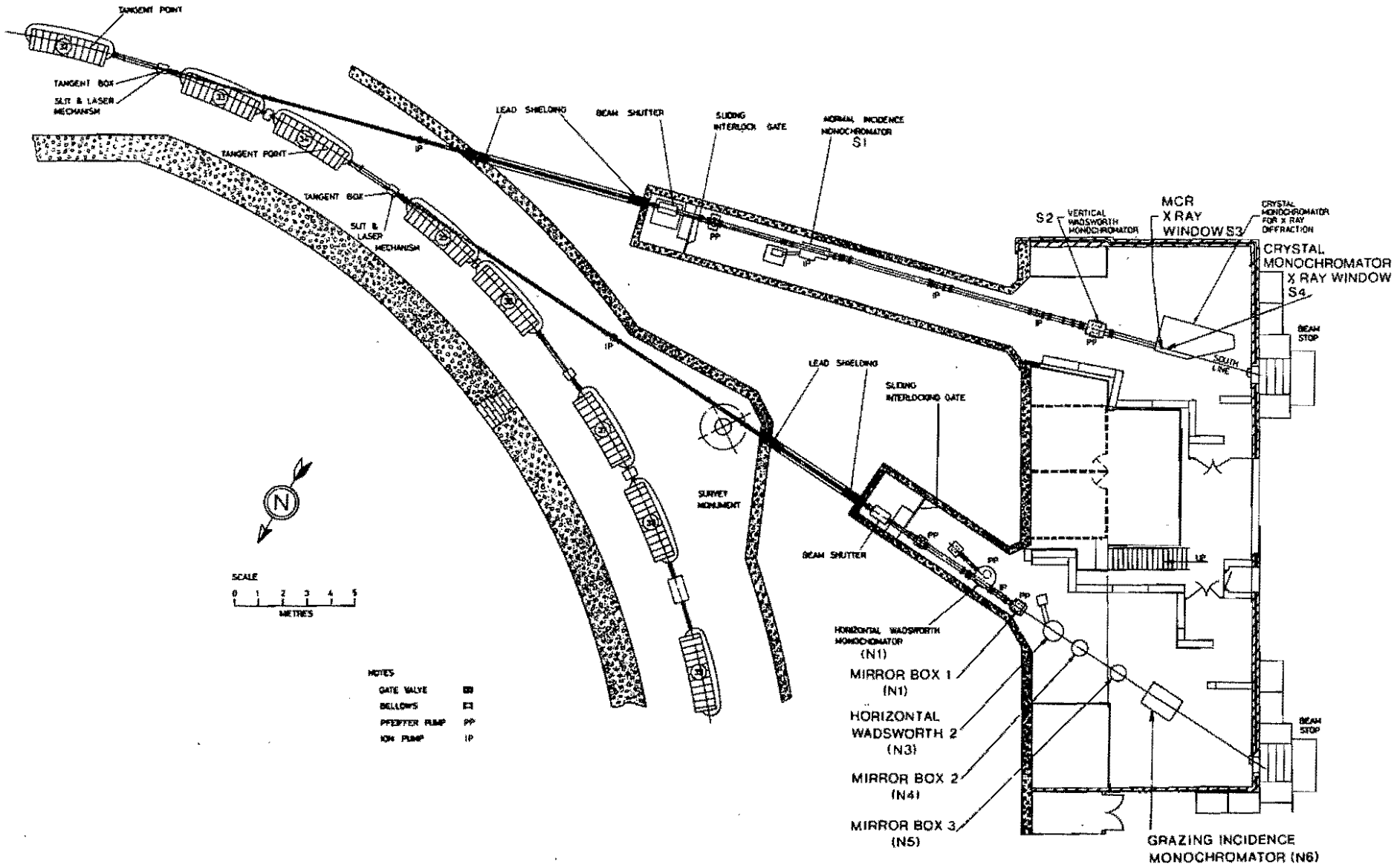
TANGENT POINT
TANGENT BOX
SLIT & LASER MECHANISM
TANGENT POINT
TANGENT BOX
SLIT & LASER MECHANISM
LEAD SHIELDING
BEAM SHUTTER
SLIDING INTERLOCK GATE
NORMAL INCIDENCE MONOCHROMATOR S1
S2 VERTICAL WADSWORTH MONOCHROMATOR
MCR X RAY WINDOW S3
CRYSTAL MONOCHROMATOR FOR X RAY DIFFRACTION
CRYSTAL MONOCHROMATOR X RAY WINDOW S4
BEAM STOP
SOUTH LINE
LEAD SHIELDING
SLIDING INTERLOCKING GATE
SURVEY MONUMENT
BEAM SHUTTER
HORIZONTAL WADSWORTH MONOCHROMATOR (N1)
MIRROR BOX 1 (N1)
HORIZONTAL WADSWORTH 2 (N3)
MIRROR BOX 2 (N4)
MIRROR BOX 3 (N5)
GRAZING INCIDENCE MONOCHROMATOR (N6)
BEAM STOP
N
SCALE
0 1 2 3 4 5
METRES
NOTES
GATE VALVE GV
BELLOWS BX
PFEIFFER PUMP PP
ION PUMP IP

Fig.17

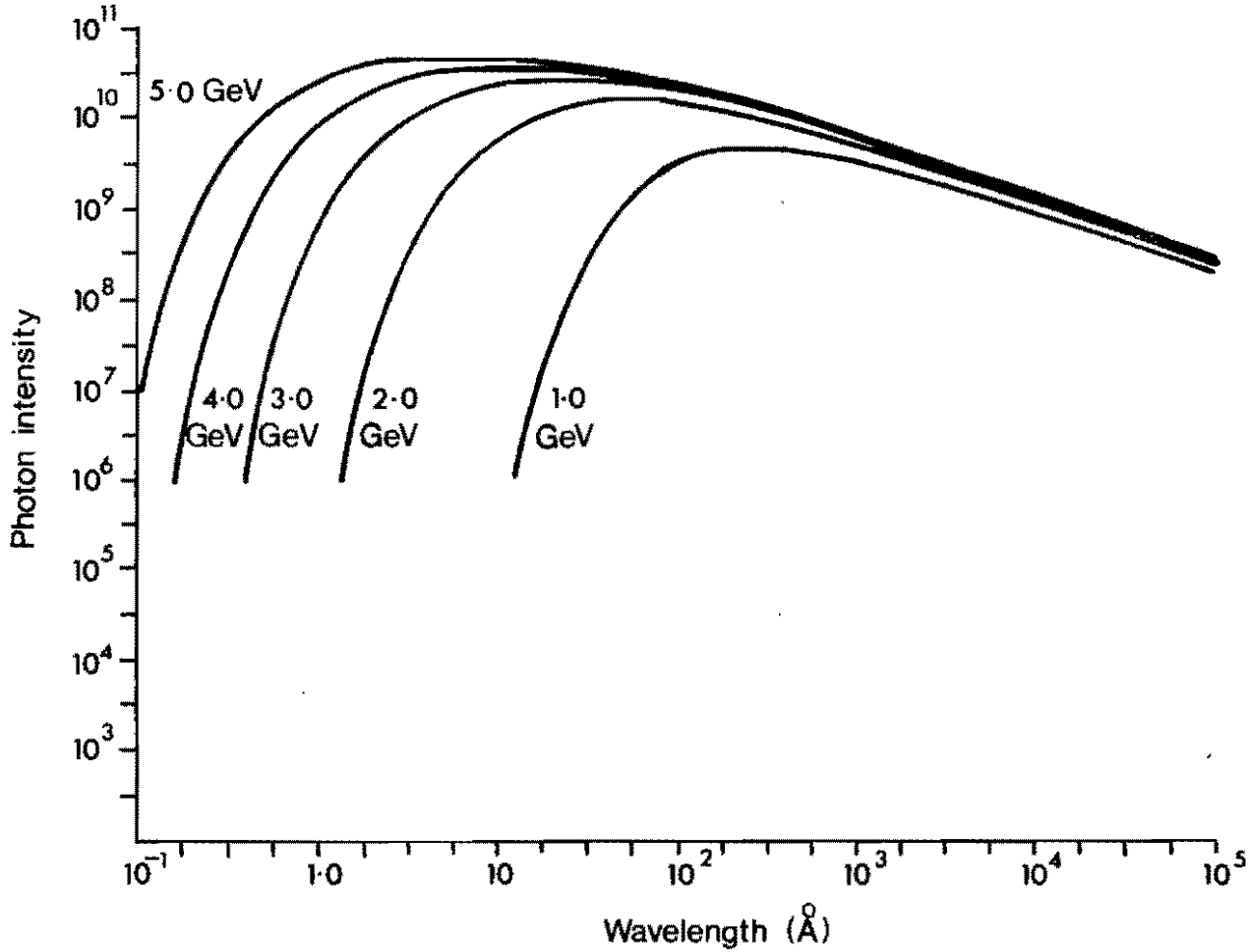
Photon intensity
10^{11}
10^{10}
10^{9}
10^{8}
10^{7}
10^{6}
10^{5}
10^{4}
10^{3}
5·0 GeV
4·0 GeV
3·0 GeV
2·0 GeV
1·0 GeV
10^{-1}
1·0
10
10^{2}
10^{3}
10^{4}
10^{5}
Wavelength (Å)

Fig.18

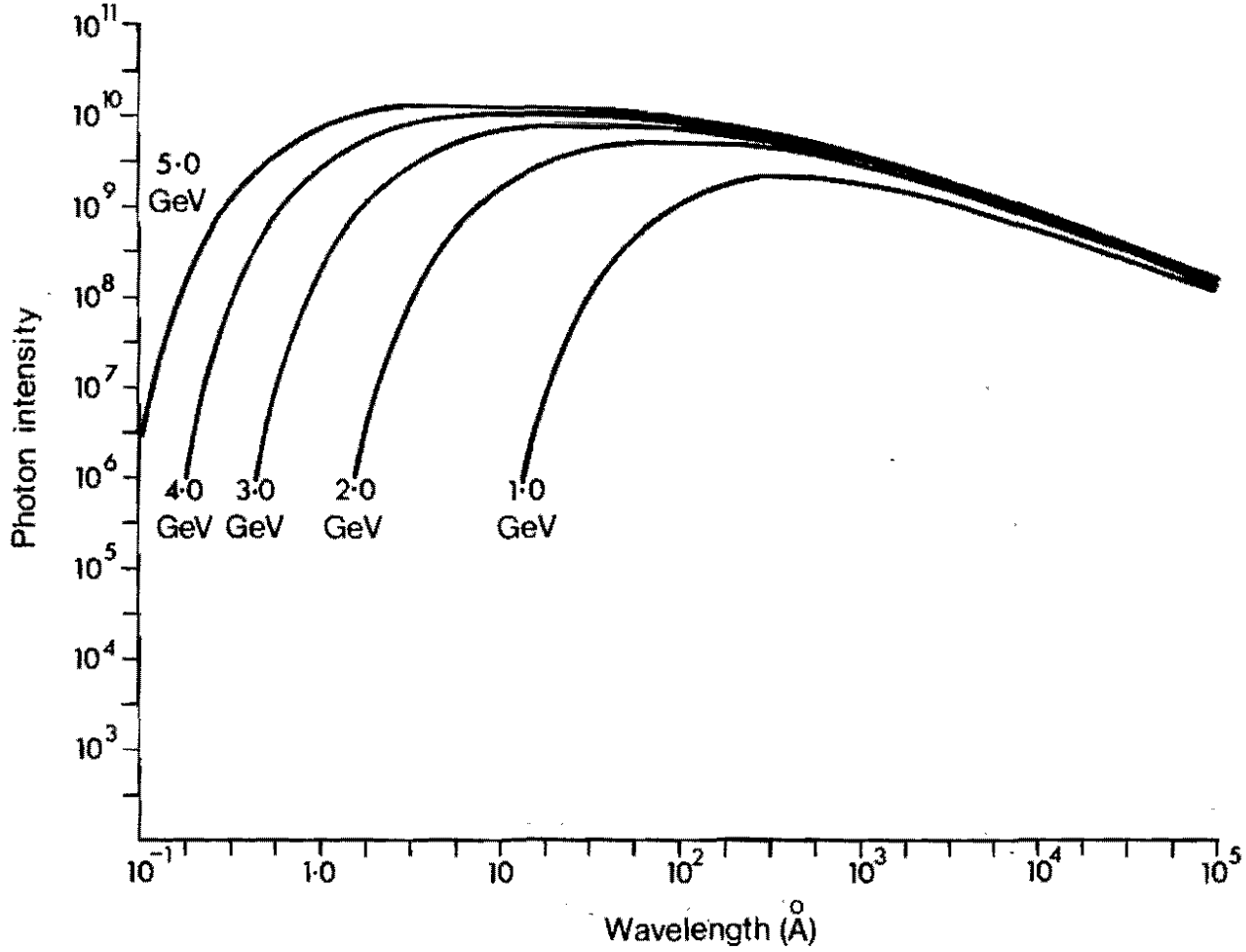
Photon intensity
10^{11}
10^{10}
10^{9}
10^{8}
10^{7}
10^{6}
10^{5}
10^{4}
10^{3}
5·0 GeV
4·0 GeV
3·0 GeV
2·0 GeV
1·0 GeV
10^{-1}
1·0
10
10^{2}
10^{3}
10^{4}
10^{5}
Wavelength (Å)

Fig. 19

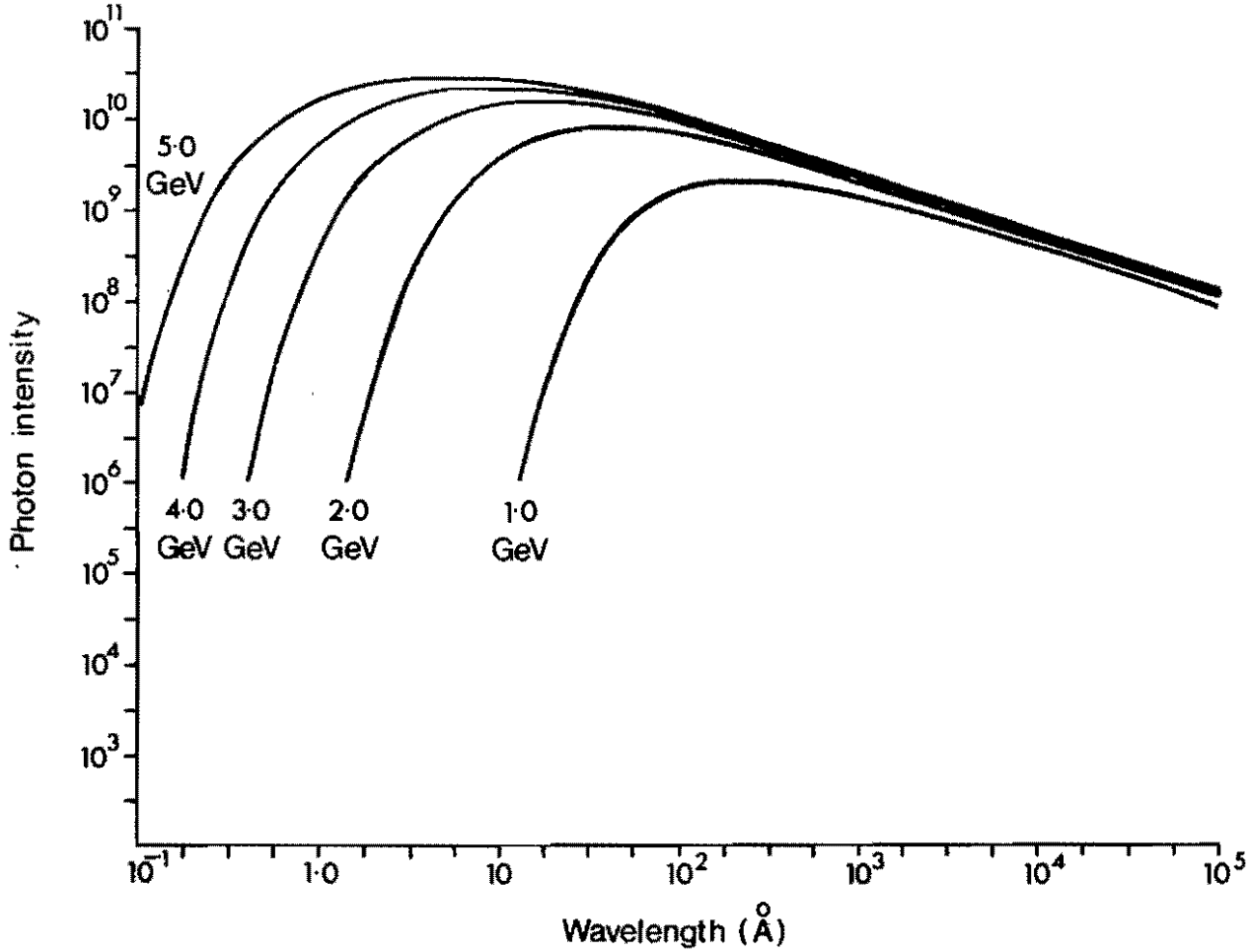
Photon intensity
10^{11}
10^{10}
10^{9}
10^{8}
10^{7}
10^{6}
10^{5}
10^{4}
10^{3}
5·0 GeV
4·0 GeV
3·0 GeV
2·0 GeV
1·0 GeV
10^{-1}
1·0
10
10^{2}
10^{3}
10^{4}
10^{5}
Wavelength (Å)

Fig. 20

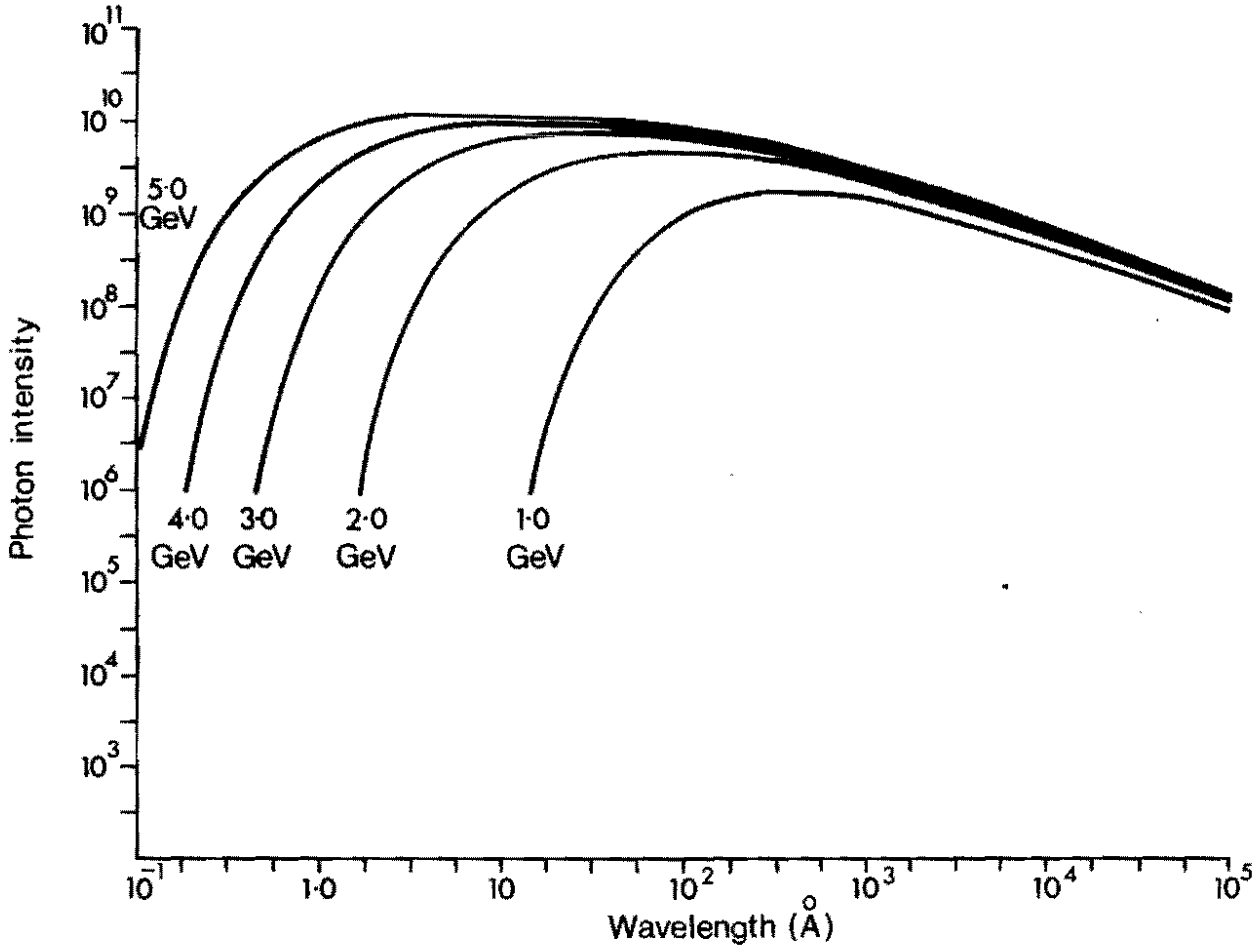
Photon intensity
10^{11}
10^{10}
10^{9}
10^{8}
10^{7}
10^{6}
10^{5}
10^{4}
10^{3}
5·0 GeV
4·0 GeV
3·0 GeV
2·0 GeV
1·0 GeV
10^{-1}
1·0
10
10^{2}
10^{3}
10^{4}
10^{5}
Wavelength (Å)

Fig. 21

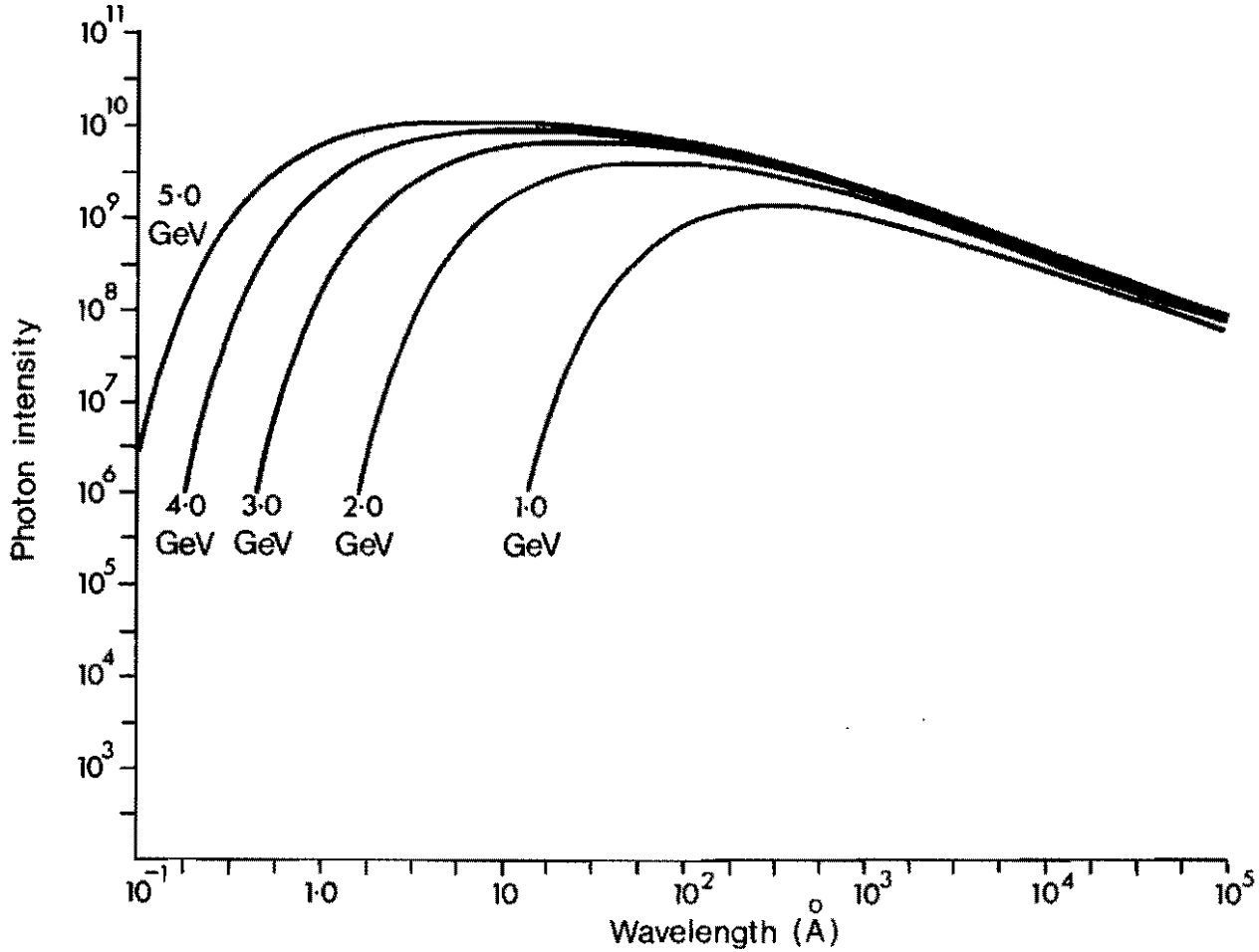
Photon intensity
10^{11}
10^{10}
10^{9}
10^{8}
10^{7}
10^{6}
10^{5}
10^{4}
10^{3}
5·0 GeV
4·0 GeV
3·0 GeV
2·0 GeV
1·0 GeV
10^{-1}
1·0
10
10^{2}
10^{3}
10^{4}
10^{5}
Wavelength (Å)

Fig.22

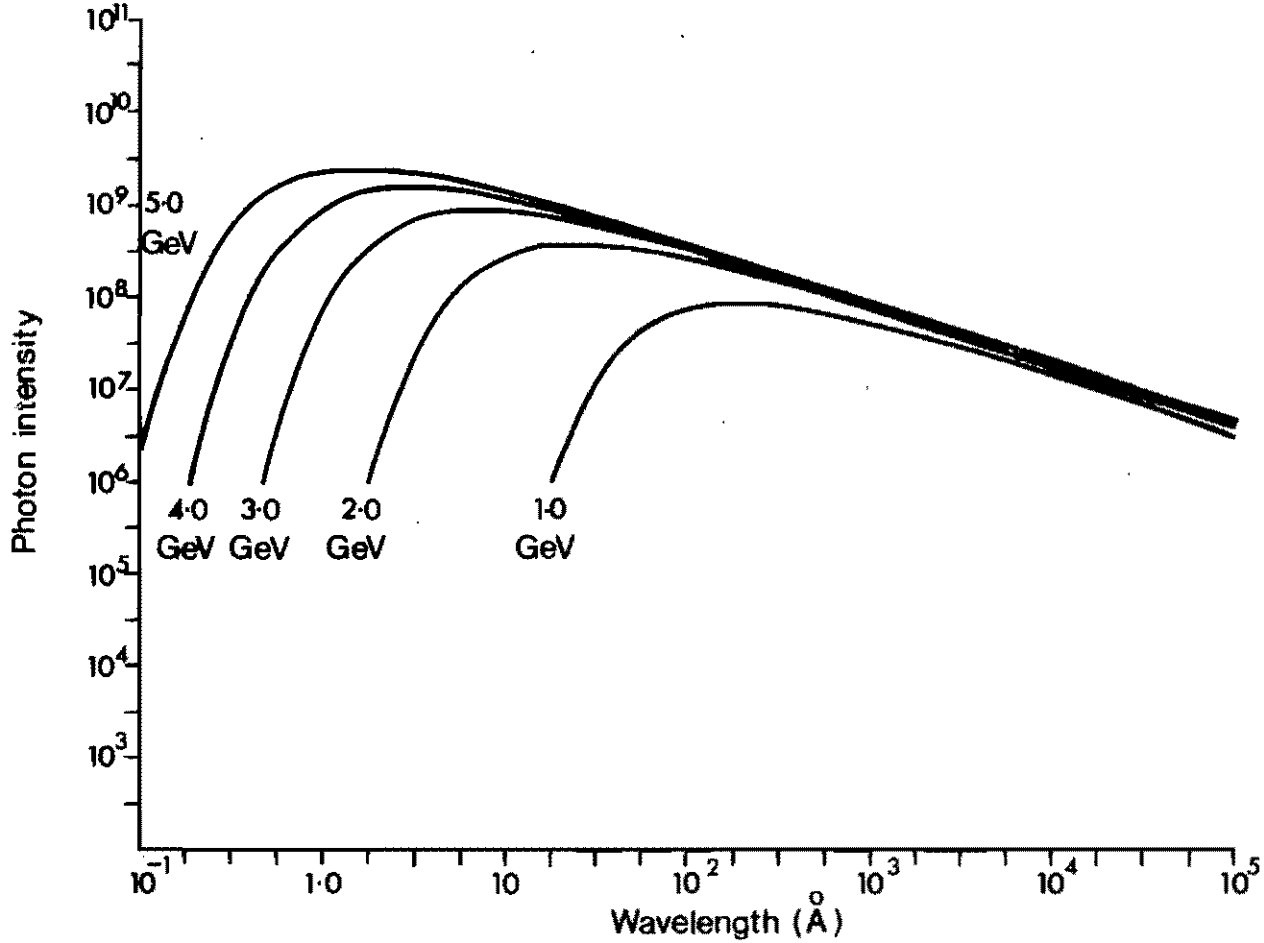
Photon intensity
10^{11}
10^{10}
10^{9}
10^{8}
10^{7}
10^{6}
10^{5}
10^{4}
10^{3}
5·0 GeV
4·0 GeV
3·0 GeV
2·0 GeV
1·0 GeV
10^{-1}
1·0
10
10^{2}
10^{3}
10^{4}
10^{5}
Wavelength (Å)

Fig. 23

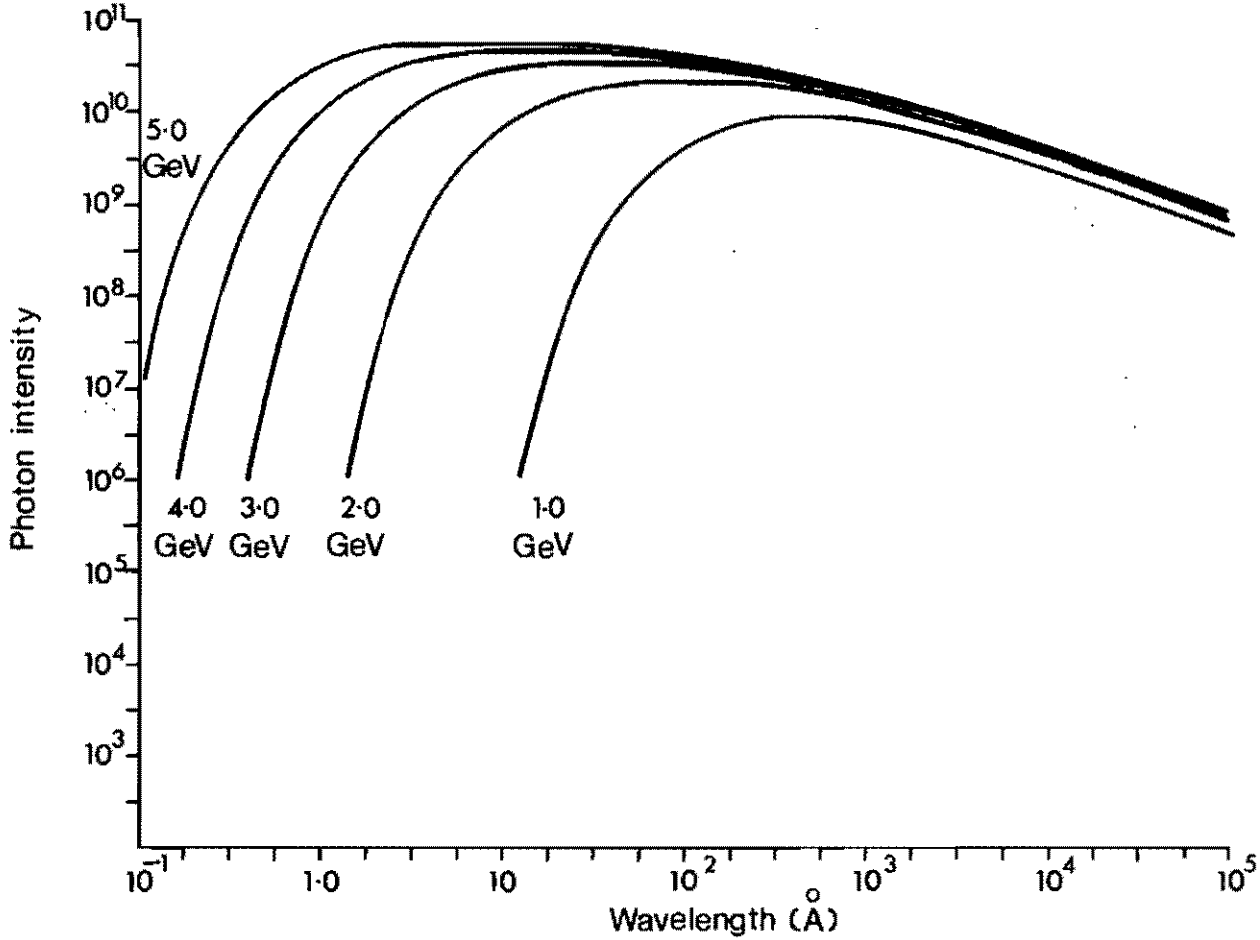
Photon intensity
10^{11}
10^{10}
10^{9}
10^{8}
10^{7}
10^{6}
10^{5}
10^{4}
10^{3}
5·0 GeV
4·0 GeV
3·0 GeV
2·0 GeV
1·0 GeV
10^{-1}
1·0
10
10^{2}
10^{3}
10^{4}
10^{5}
Wavelength (Å)

Fig. 24

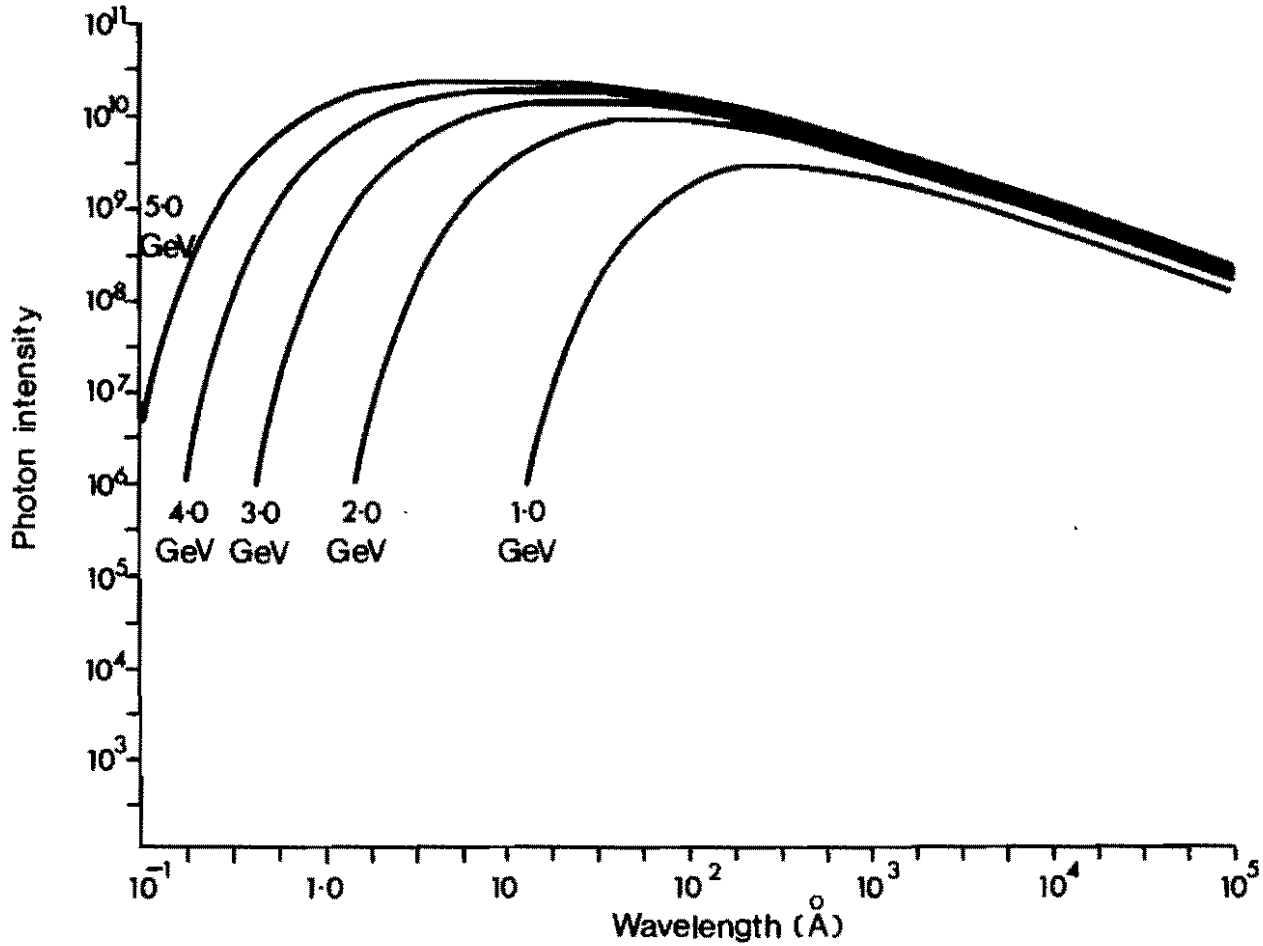
Photon intensity
10^{11}
10^{10}
10^{9}
10^{8}
10^{7}
10^{6}
10^{5}
10^{4}
10^{3}
5·0 GeV
4·0 GeV
3·0 GeV
2·0 GeV
1·0 GeV
10^{-1}
1·0
10
10^{2}
10^{3}
10^{4}
10^{5}
Wavelength (Å)

Fig. 25

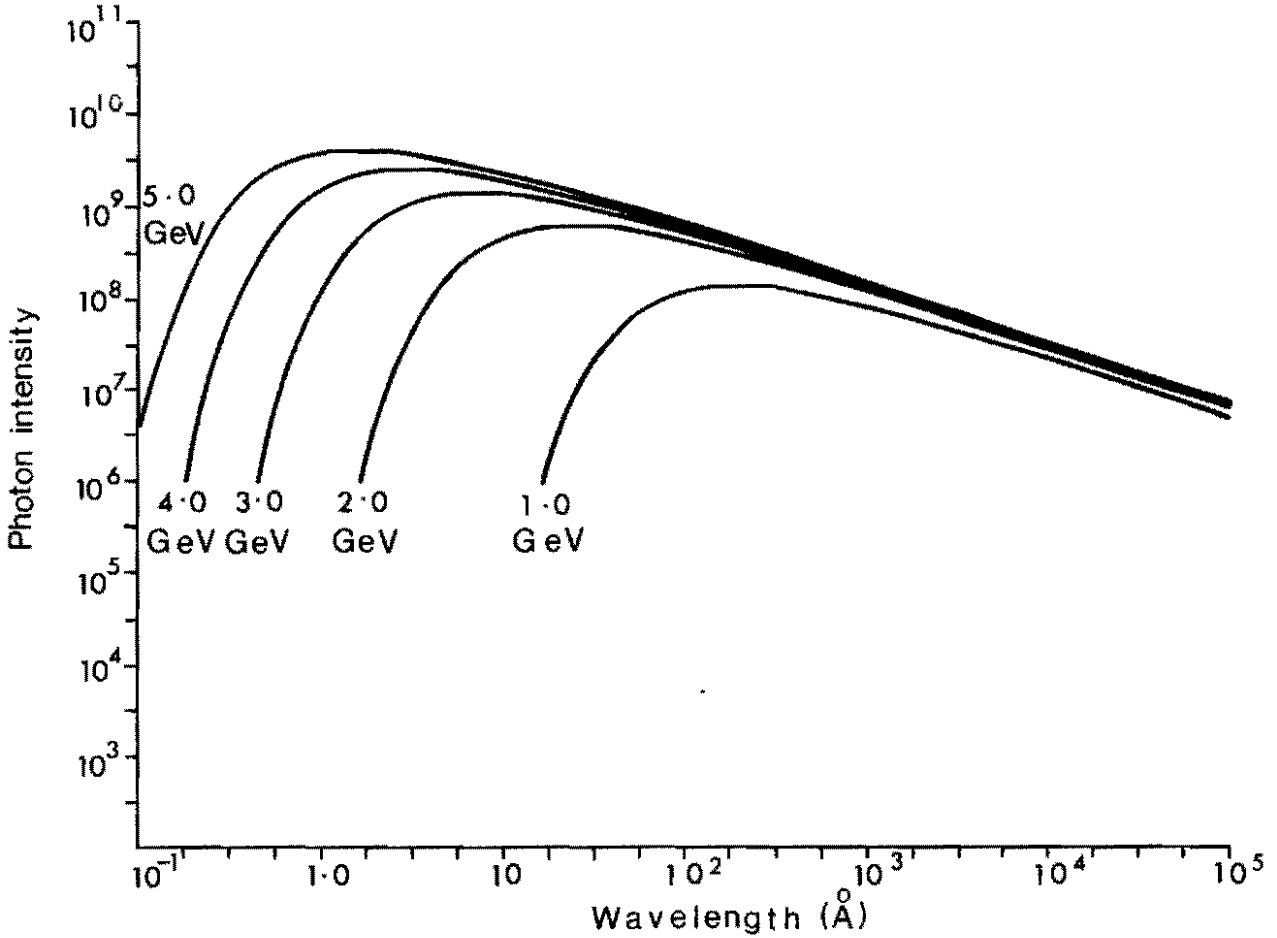
Photon intensity
10^{11}
10^{10}
10^{9}
10^{8}
10^{7}
10^{6}
10^{5}
10^{4}
10^{3}
5·0 GeV
4·0 GeV
3·0 GeV
2·0 GeV
1·0 GeV
10^{-1}
1·0
10
10^{2}
10^{3}
10^{4}
10^{5}
Wavelength (Å)

Fig. 26

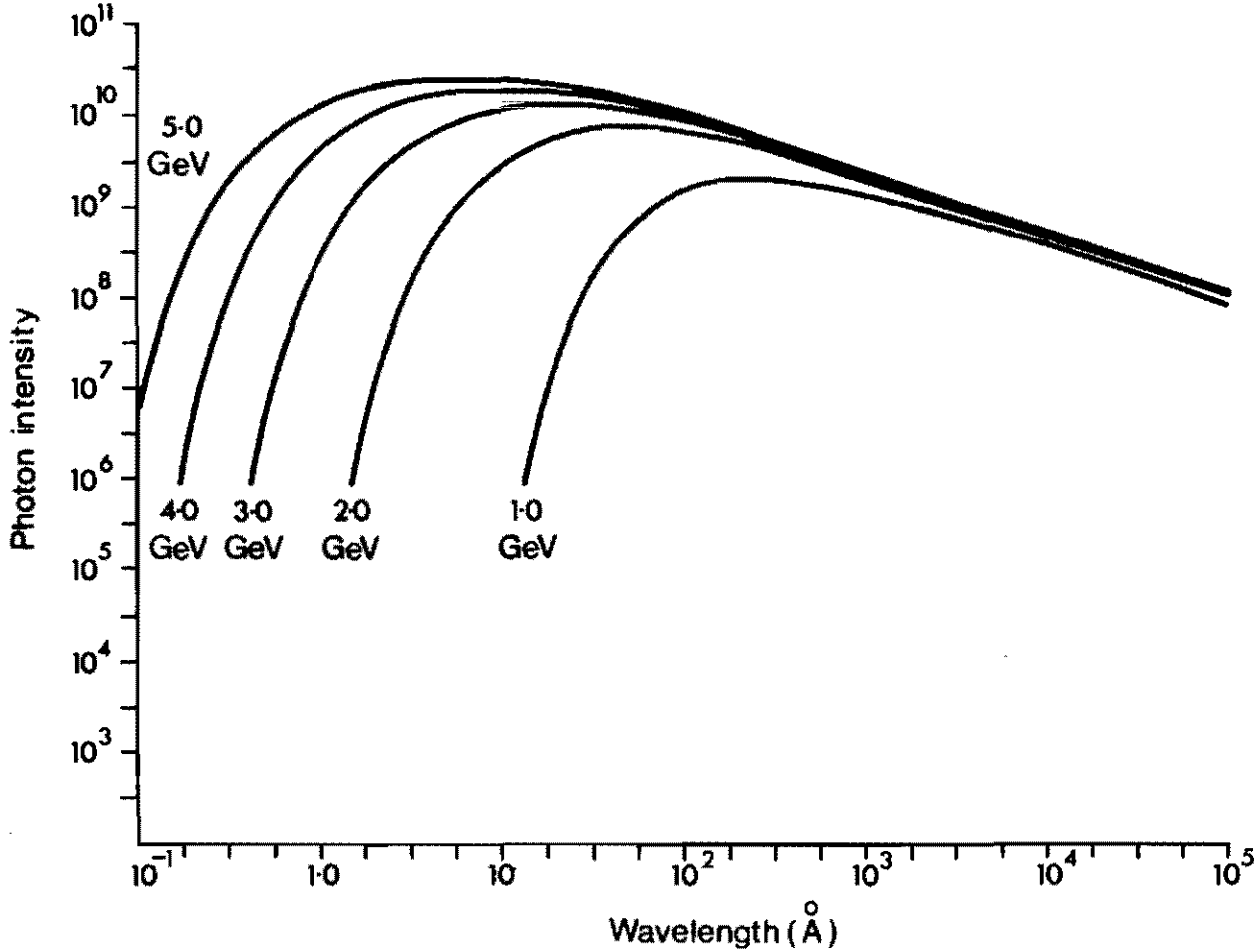
Photon intensity
10^{11}
10^{10}
10^{9}
10^{8}
10^{7}
10^{6}
10^{5}
10^{4}
10^{3}
5·0 GeV
4·0 GeV
3·0 GeV
2·0 GeV
1·0 GeV
10^{-1}
1·0
10
10^{2}
10^{3}
10^{4}
10^{5}
Wavelength (Å)

Fig.27

NINA 4