











Brightness comparison of TLS and TPS The X-ray spectrum (photon energy 8 keV~70 keV) : the brilliance of bending magnet increases by $>10^2$. the brilliance of bending IDs increases by 4~6 orders of mag. Cu K_a 8.0 keV 70 keV Cu K 8.0 keV 70 keV CU18 Brilliance (photons/s/0.1%bw/mm²/mr²/0.4A) TLS TPS 10² EPU46 10²¹ 10³ EPU 10²⁰ EPL 10¹ 10¹⁹ 10¹ 10¹⁸ - U90 U280 10¹ 10¹¹ 10¹ 10¹ SW48 IASW6

10¹

10¹

10

10⁵

Bendin

10²

10³

Photon Energy (eV)

10¹

10

10

10⁴

10¹

10¹

10¹

SWLS

10³

Photon Energy (eV)

10

10⁴







A crystal structure consists of identical copies of the same physical unit, called the **basis**, located at all the points of a **lattice**.

A lattice is defined as an array of equivalent points in 1, 2 or 3 dimensions. The environment of an atom placed on any one of these lattice points would be identical to that placed on any other lattice point. Therefore the lattice locates equivalent positions and shows the **translational symmetry**. The actual positions of atoms or molecules, however, is not provided.































































