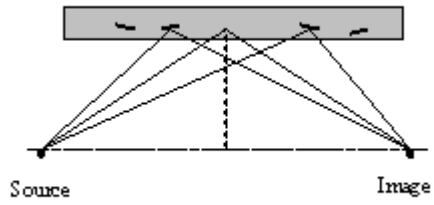

Mosaic focusing arises from the fact that X-rays from a monochromatic point source reflected on a mosaic crystal converge to a point of the equal distance from the crystal as the source before diverging away. Thus, in the symmetric geometry mosaic focusing enhances the intensity in the image plane as well as the spectral resolution.

Energy smearing is determined by geometrical aberration, source size and the Darwin width of small crystallites (intrinsic broadening). Although geometrical aberrations (mainly flat focusing errors and errors due to X-ray penetration into the mosaic crystal) are still influenced by crystal mosaicity, the energy resolution in dispersion direction can be significantly improved.