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Sextupole offset effects on the storage ring linear optics

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Even though the strengths are weaker, different from quadrupole offsets, sextupole offsets are causing more complicated disturbances on the storage ring optics. They are making orbit distortion and quadrupole kicks as well as couplings. The offsets in chromatic sextupoles can affect the correction of chromaticity too. The closed orbit corrections in modern storage rings are fast and reliable, but their main focus is correcting the orbit to the quadrupole centers and the orbit distortion from a sextupole offset can make orbit offsets at other sextupoles which can be iterated. In this paper, we study the impact of the sextupole offsets on the linear optics in NSLS-II storage ring.

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