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Efficient Neutron Transport and Imaging with Magnetic Lenses

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Magnetic lenses have been developed for neutron beam transport. When the spin is parallel to the magnetic field, the neutron beam is focused by a sextupole magnet due to the magnetic dipole moment of the neutrons. On the other hand, the rest of the neutron beam is defocused. We are developing a powerful permanent magnet type sextupole lens which enables focal length modulation in synchronization with TOF. The status of the development research will be presented.

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