



Contribution ID: 717 Contribution code: WEPS048

Type: Poster Presentation

## Design of nonlinear kicker for Siam Photon Source II

Wednesday 4 June 2025 16:00 (2 hours)

A non-linear kicker (NLK) is designed for the beam injection into the storage ring of Siam Photon Source II. The required deflection angle is 4 mrad, the effective length is 400 mm and the peak field is 100 mT at the horizontal position of 9 mm from the magnet center. The design is based on 8-wire configuration where the conductor position is symmetric along the xz and yz planes. The vertical size of ceramics chamber is determined by the vertical beam stay-clear at the magnet position in the storage ring. Magnetic field calculation of the NLK is performed in Radia and Opera-3D. The octupole-like magnetic field with extended plateau of the field-free region at the magnet center minimizes the perturbation on the stored beam. Effects of conductor position, mechanical tolerance and ceramics chamber coating are investigated. Magnetic and mechanical design of the NLK will be presented.

### Footnotes

### Paper preparation format

Word

### Region represented

Asia

### Funding Agency

**Author:** SUNWONG, Prapaiwan (Synchrotron Light Research Institute)

**Co-authors:** PRUEKTHAISONG, Piyawat (Synchrotron Light Research Institute); SUDMUANG, Pornpip (Synchrotron Light Research Institute); JUMMUNT, Siriwan (Synchrotron Light Research Institute); PRAWANTA, Supachai (Synchrotron Light Research Institute); PHIMSEN, Thanapong (Synchrotron Light Research Institute); PULAMPONG, Thapakron (Synchrotron Light Research Institute); LEETHA, Thongchai (Suranaree University of Technology)

**Presenter:** SUNWONG, Prapaiwan (Synchrotron Light Research Institute)

**Session Classification:** Wednesday Poster Session

**Track Classification:** MC7: Accelerator Technology and Sustainability: MC7.T09 Normal Conducting Magnets