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Development of a beam scraper system for Siam Photon Source II

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This paper presents the development of a beam scraper system for the 3 GeV storage ring of Siam Photon Source II (SPS-II). Beam scrapers are essential for removing halo particles, protecting accelerator components, and managing aperture limitations. The scraper blade material is carefully chosen for its superior thermal conductivity and mechanical strength. The design prioritizes considering wakefield impedance to minimize beam disturbances, incorporates detailed thermal simulations to ensure operational stability, and optimizes the mechanical structure for easy installation and long-term durability. This integrated design approach significantly enhances the performance and reliability of the SPS-II beam scraper system.

Footnotes

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