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【283】Optimization and Shimming of a High Temperature Superconducting Bulk Undulator

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A novel short period, high-temperature superconducting bulk undulator is being developed at the Paul Scherrer Institute. It has been shown that a staggered array bulk configuration may be magnetized, via a field-cooling procedure, to generate more than a factor of two increase of the peak on-axis field when compared to permanent magnet undulators. However, to be useful at high harmonics it must also be shimmed to an acceptable level of phase error. This presents with some challenges as the differences between the bulks are more significant than those between permanent magnets. In this work we present our progress to reduce these field errors.

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