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Measurement, tuning and test for the two-mode TDS

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SSRF/SXFEL has developed the advanced transverse deflecting structure TTDS (two-mode transverse deflecting structure) to perform variable polarization based on the design of a dual-mode structure. The 15-cell prototype of the TTDS was designed and fabricated at SSRF/SXFEL. The non-resonant perturbation was chosen as the measurement for HEM modes and improved for the two modes in TTDS respectively. At the same time, a new method to tune two modes simultaneously were designed and applied at SSRF/SXFEL. The low power test was performed and all the results are summarized in this paper. The TTDS has been tuned to required performance and is ready for high power test.

Footnotes

variable polarization, two-mode TDS, low power test, measurement and tuning

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