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## **High precision, high heat-load mirror for the APS diagnostics beamline**

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A high precision mirror for measuring the storage ring beam size is under fabrication for the APS Diagnostics beamline. The mirror, which will be located at 12.9 meters from the bending magnet source, is required to maintain less than 1.6 microradian slope error. The mirror design consists of a slot in the center in order to reduce incident power from the 300 mamp, 7 GeV beam during normal operation. Water channels with fins are machined in the GlidCop mirror body to protect it against extremely high heat loads under accidental beam deviations. The mechanical design of the mirror, and results from a thermal analysis are presented in this paper.

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