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An In-House Thermal Evaporation System for Anti-Reflection An In-House Thermal Evaporation System for Anti-Reflection Coating of Laser Diodes SARAH NAGEL, DUONG NGUYEN, THOMAS KILLIAN, RAN-DALL HULET, Department of Physics and Astronomy and Rice Quantum Institute, Rice University, Houston 77251 — Laser diodes have become a very popular and powerful tool in AMO research due to their frequency tunability, small size and low cost. These devices are often used in external cavity diode lasers (ECDL) and injection locked amplifers. In both cases, in order to maintain frequency stability, the reflectivity of the diode facet must be as low as possible. Anti-reflection coating these devices is a commerically available, but rather expensive, procedure. In this poster, we present an in-house thermal evaporation system designed for coating diode lasers with SiO in a vacuum chamber capable of reaching 10^{-5} torr. We monitor the coating process by measuing the threshold current of the laser diode *in-situ*. We present reflectivity and coating stability results.

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