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Towards trapping and laser cooling Ba and La ions[1] JESSIE HANKES, AMANDA NELSON, PATRICK BANNER, STEVEN OLMSCHENK, Denison University — Trapped atomic ions are one of the leading candidates for applications in quantum information. We are currently working with barium ions (Ba II), directly loaded by laser ablation of a barium titanium oxide target, and laser cooled using visible laser light (650 nm and 494 nm). Motivated by applications of quantum networks, we also present progress towards laser cooling and trapping lanthanum ions (La III), which should enable quantum information protocols at telecom wavelengths for long-distance applications.

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