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Grating Ti:Sa laser: Rydberg & auto-ionizing state spectroscopy¹ ANDREA TEIGELHOEFER, TRIUMF Canada's National Laboratory for Nuclear and Particle Physics, PIERRE BRICAULT, JENS LASSEN, TRIUMF, WALTER NEU, FHO Emden, Germany, KLAUS WENDT, Physik, Universitaet Mainz, Germany — TRIUMF's Isotope Separator and Accelerator facility (ISAC) provides intense radioactive isotope beams (RIB) for nuclear and particle physics experiments. Resonant laser ionization is well suited as an on-line ion source for RIB production due to its efficiency and element selectivity. TRIUMF's Laser Ion Source (TRI LIS) uses BRF tuned Ti:Sa lasers with GHz linewidth and 10kHz rep. rate. Continuous wavelength scanning of these lasers is involved. A grating tuned Ti:Sa laser was built to allow for high resolution continuous wavelength scans (10nm/h) thus allowing for systematic studies of high lying atomic energy levels and the development of efficient RIS schemes. This grating tuned Ti:Sa laser system will be presented.

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Jens Lassen TRIUMF Canada's National Laboratory for Nuclear and Particle Physics

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