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The LARIS lab

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The LARIS (LAser Resonance Ionization Spectroscopy) laboratory is a new facility at the Meyrin site. The lab is located in building 252. The main purpose of the laboratory is to provide the RILIS laser system with new data on atomic ionization pathways. For each radioactive ion beam to be produced on-line with RILIS, the most efficient ionization schemes can be derived from off-line experiments with corresponding stable isotopes. At LARIS, high-lying atomic states of stable isotopes will be examined using three wavelength tunable laser systems at low pulse repetition rate (10 Hz). In particular, new data will be provided for the future upgraded solid-state RILIS system. This is important, since the wavelength coverage of the new solid-state based RILIS will differ from the present one.

The main focus of the lab will be on the characterization of autoionizing states of atoms by resonance ionization spectroscopy of atomic beams, produced either through laser ablation of metal targets or using effusive oven techniques. Development and testing of ion sources could be one of the activities. The LARIS lab is expected to be fully operational, with three tunable lasers, in summer 2008. Technical details of the experimental setup in construction will be discussed in the presentation.

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