

**31**<sup>st</sup> **January 2013 – 10:00 a.m.** CFEL-bldg. 99, seminar room I (EG.076)

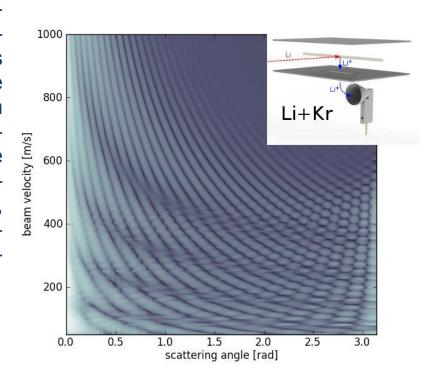
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## Detection of Lithium atoms from cold collisions

In order to investigate reactive and non-reactive collisions between atoms and molecules at very low scattering energies a magneto-optical trap for ultracold <sup>7</sup>Li atoms is combined with a rotating nozzle setup for producing beams of cold molecules. Scattered Li atoms can be detected by means of surface ionization on a hot ribbon, which allows sensitive observation of the differential cross section in backwards direction. The talk discusses

the detector and the numerical calculation of quantummechanical scattering cross sections for elastic Li-rare gas scattering. The collision dynamics in the studied regime shows rich structure like multiple rainbows and orbiting resonances. Furthermore, first measurements with different atomic beams are presented.



Host: Jochen Küpper, CFEL Molecular Physics Seminar