TIME DOMAIN THz SPECTROSCOPY OF INTRACOMPLEX RYDBERG-RYDBERG TRANSITIONS IN CaF

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In order to develop novel experimental schemes for the study of the Rydberg states in CaF using extraordinarily large dipole moments for intracomplex transitions, a time domain THz spectrometer is being set up. Initial stages of the experiment include rotational time domain THz Spectroscopy of small gas-phase molecules, like CH_3F and H_2CO, in static cell. In addition, we are employing polarization effects and Stark effect as assignment tools of state-resolved optical-optical double resonance spectra of jet cooled CaF.