LIF emission spectra of CdAr molecule

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In laser spectroscopy of diatomic molecules, measurements of LIF emission spectra provide valuable information on both, the electronic energy-state potential to which the emission occurs (*bound → bound* spectra) as well as the shape of the emitting excited-state wave function (*bound → free* spectra).

Recently, our research group, as part of the ATOMIN 2.0[1] project, acquired a SpectraPro HRS 750 grating spectrometer (Teledyne Princeton Instruments). Using an image intensifier, this device can efficiently detect signals coming from single photons. The poster will present the latest results obtained, for example, in the measurement and interpretation of the LIF dispersed emission spectra associated with the de-excitation of CdAr molecule following excitation to different vibrational υ' levels of the $B^3\Sigma_1^+$ (5^3P_1) state, as shown in Fig. 1.

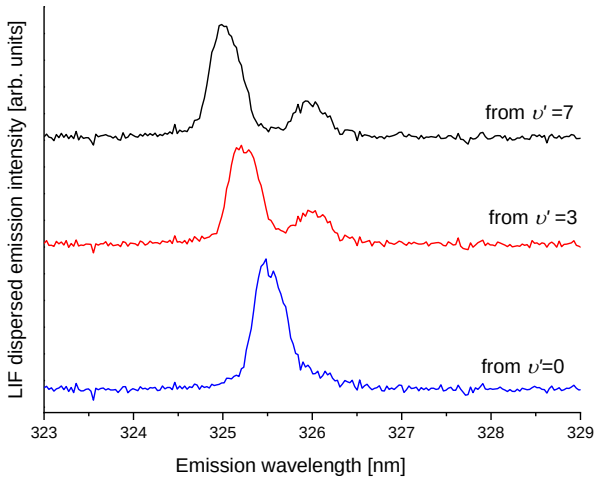

Fig.1. LIF dispersed emission signal observed in de-excitation of CdAr molecule from three selected υ' vibrational levels of the $B^3\Sigma_1^+$ (5^3P_1) state.

[1]ATOMIN 2.0 – ATOM-scale material research centre for the INnovative economy.

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