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Mixed Cs + K trap and production of ultracold polar molecules
MARIN PICHLER, Goucher College, DAVID HALL, Goucher College, Baltimore MD — Our recent results on simultaneous trapping of potassium and cesium atoms in a dual MOT are presented. The goal is to form ultracold polar KCs molecules by photoassociation and resonant coupling. We use external cavity diode laser for photoassociation. A Labview program controls the laser scanning and data acquisition. We present our photoassociation results with trap-loss detection in single species (Cs) and dual species ($Cs + K$) trap. We will outline our proposal for producing deeply bound $X^1\Sigma^+$ ground state molecules, and their detection with the resonant ionization multi-photon detection scheme. We will also discuss particular properties and applications of polar KCs.

Marin Pichler
Goucher College, Baltimore MD

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