

LASER SPECTROSCOPY OF THE PHOTOASSOCIATION OF Rb–Ar AND Rb–Kr THERMAL PAIRS: STRUCTURE OF THE Rb–RARE GAS $A^2\Pi_{1/2}$ STATE NEAR THE CLASSICAL LIMIT

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A new laser spectroscopic technique has been demonstrated for examining the structure of alkali–rare gas diatomic electronic states near the classical limit. In two-color experiments, Rb–Ar or Rb–Kr thermal pairs are excited by free←free or bound←free transitions while monitoring the amplified spontaneous emission produced on the Rb D_1 or D_2 lines. Spectra observed lying within 10 cm^{-1} of the separated atom limit for the $A^2\Pi_{1/2}$ states of Rb–Ar and Rb–Kr will be presented and discussed.