

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  $10\text{ cm}^{-1}$  of the separated atom limit for the  $A^2\Pi_{1/2}$  states of Rb–Ar and Rb–Kr will be presented and discussed.