

Abstract Submitted
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Analysis of Data on the $B^1\Pi$ and $c^3\Sigma^+$ States of NaK T. BERGEMAN¹, SUNY Stony Brook, H. SALAMI, Rafik Hariri Univ., Meshref, Lebanon, AMANDA ROSS², Université Lyon 1 and CNRS (UMR 5306), France — Current efforts to produce cold NaK molecules from cold atoms start with production of Feshbach resonances [1] followed by excitation to high-lying singlet or triplet states, and then one- or two-step possibly stimulated decay to $v=0$ of the X ground state. Efficient use of these processes requires an accurate and detailed knowledge of NaK energy level structure. There have been numerous reports of excellent spectroscopic data on the NaK B and c states of NaK, as summarized in [2]. To meet requirements of current applications for a detailed, accurate compilation, we have constructed a model based on direct fits of experimental term values to potentials and spin-orbit coupling functions. Identification of regions of singlet-triplet $B - c$ state mixing is especially useful for current work.

[1] C.-H. Wu, M. Zwierlein, et al., PRL **109**, 085301 (2012).

[2] R. Ferber et al., JCP **112**, 5740 (2000).

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