Abstract Submitted
for the DAMOP14 Meeting of
The American Physical Society

New Spectroscopic Data and Analysis of Existing Data on the $A^1\Sigma^+$ and $b^3\Pi$ states of NaK T. BERGEMAN[1], SUNY Stony Brook, H. SALAMI, Rafik Hariri Univ., Meshref, Lebanon, KARA RICHTER, JOSHUA JONES, Lehigh Univ., Bethlehem, PA, AMANDA ROSS[2], Université Lyon 1 and CNRS (UMR 5306), France — Current efforts to produce cold NaK molecules[3] by excitation from Feshbach resonance states and stimulated decay require an accurate model of the energy level structure of the species. There have been numerous publications over the past 25 years with high quality spectroscopic data, but gaps remain, and there is no systematic compilation for the NaK A and b states. We have obtained new data that fill some of the gaps and provide more information on perturbation interactions between these states, and we have constructed a model based on direct fits to potentials and spin-orbit coupling elements. We will present results and discuss possible interactions with the NaK $c^3\Sigma^+$ state.

[1]Work at Stony Brook was supported by NSF.
[2]Work in Lyon was supported by CNRS (PICS Grant INP 05972).
[3]M. Zwierlein, private communication.

T. Bergeman
SUNY Stony Brook

Date submitted: 29 Jan 2014 Electronic form version 1.4