Potential Energy Surfaces and Derivative Coupling Terms for M + Ng, M = K, Rb, Cs, and Ng = He, Ne, Ar DAVID WEEKS, LACHLAN BELCHER, L. BLANK, Air Force Institute of Technology, GARY KEDZIORA, High Performance Technologies, Inc. — Potential energy surfaces and derivative coupling terms are computed for M + Ng, (M = K, Rb, Cs and Ng = He, Ne, Ar). These surfaces will be used to study pressure broadening of the D1 and D2 atomic lines. They will also be used in wave packet studies to investigate non-radiative fine structure transition rates. Both pressure broadening and the fine structure transition rates play an important role in the operation of optically pumped alkali lasers.

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