

Abstract Submitted
for the DAMOP15 Meeting of
The American Physical Society

Prospect for the formation of a gas of ultracold polar NaRb molecules¹ GOULVEN QUÉMÉNER, ROMAIN VEXIAU, GAOREN WANG, MAXENCE LEPERS, ELIANE LUC, NADIA BOULOUFA-MAAFA, OLIVIER DULIEU, Laboratoire Aimé Cotton, CNRS, Univ. Paris-Sud, ENS Cachan, Orsay, DAJUN WANG, Department of Physics, The Chinese University of Hong Kong, China — We present a complete theoretical model for the formation of an ultracold gas of polar NaRb molecules, based on high-precision spectroscopic data completed with accurate quantum chemistry calculations. Weakly-bound molecules are first created via a Feshbach resonance with main triplet character. The population is transferred down to the lowest rovibrational level of the ground state by a coherent STIRAP process. The efficiency of various paths via different electronically-excited molecular states is discussed in relation of the ongoing experimental implementation.

¹Supported by Agence Nationale de la Recherche (ANR), project COPOMOL (# ANR-13-IS04-0004-01)

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Date submitted: 30 Jan 2015

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