Abstract Submitted
for the DAMOP20 Meeting of
The American Physical Society

Modelling loss processes in ultracold molecular collisions JAMES CROFT, Department of Physics, University of Otago, Dunedin, New Zealand, JOHN BOHN, JILA, NIST, and Department of Physics, University of Colorado, Boulder, Colorado 80309-0440, USA, GOULVEN QUMNER, Universite Paris-Saclay, CNRS, Laboratoire Aime Cotton, 91405, Orsay, France — Experiments on non-reactive ultracold molecules, appear to have observed two-body collisional losses, even when the molecules are in their absolute ground state. It has been proposed that these losses are due to the formation of long-lived collision complexes. However interpreting the experimental results is challengingthe usual time-independent scattering methods do not treat the formation of long-lived complexes as a loss process and yield a unitary S-matrix. Using ideas taken from nuclear physics I will discuss how direct information about the complex itself can be extracted from the experimental results using an approach based on appropriately averaged cross-sections.

James Croft
Department of Physics, University of Otago, Dunedin, New Zealand

Date submitted: 28 Jan 2020 Electronic form version 1.4