

Abstract Submitted  
for the DAMOP15 Meeting of  
The American Physical Society

**Radio-frequency induced Feshbach resonances**<sup>1</sup> YIJUE DING, Department of Physics, Purdue University, JOSE D'INCAO, JILA, Department of Physics, University of Colorado, Boulder, CHRIS GREENE, Department of Physics, Purdue University — We elaborate a set of tools that allow us to analyze the possible ways in which a Feshbach resonance can be induced by applying an external oscillating magnetic field. This possibility can allow one to develop the simultaneous control of multiple Feshbach resonances and greatly expand the range of new phenomena that can be explored in ultracold homonuclear and heteronuclear quantum gases. We use the Floquet representation in order to explore such scenarios both numerically and analytically via the extension of MQDT to external oscillating fields.

<sup>1</sup>This work is supported by the US National Science Foundation.

Yijue Ding  
Department of Physics, Purdue University

Date submitted: 18 Mar 2015

Electronic form version 1.4