

Collisional properties of heteronuclear mixtures with resonant interspecies interaction

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We consider a heteronuclear Fermi-Fermi mixture close to an interspecies Feshbach resonance and discuss atom-dimer scattering properties in the presence of an external confining potential, restricting the system to a quasi-2D geometry. We find that there is a peculiar atom-dimer p-wave resonance which can be tuned by changing the frequency of the confinement. Our results have implications for the ongoing experiments on Lithium-Potassium mixtures, where this mechanism can be used to switch the p-wave interaction between a K atom and Li-K dimer from attractive to repulsive.