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Scattering properties of weakly bound dimers of fermionic atoms DMITRY PETROV, ITAMP, Harvard-Smithsonian CfA and CUA, Physics Department, Harvard University, CHRISTOPHE SALOMON, LKB, Ecole Normale Superieure, Paris, France, GEORGY SHLYAPNIKOV, LPTMS, University of South Paris, Orsay, France — We discuss the behavior of weakly bound homonuclear and heteronuclear bosonic molecules formed in a two-component Fermi gas with a large positive scattering length for the interspecies interaction. We present a theoretical approach for solving a few-body scattering problem and describe the physics of dimer-dimer elastic and inelastic scattering. We explain why these diatomic molecules, while in the highest ro-vibrational level, are characterized by remarkable collisional stability.

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