

Abstract Submitted
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Collisions of dipolar particles in a two-dimensional trap and a tilted field¹ GOULVEN QUÉMÉNER, MAXENCE LEPERS, OLIVIER DULIEU, CNRS, Laboratoire Aimé Cotton (France) — We present the two-body collisional properties of ultracold dipolar particles (magnetic polar atoms or electric polar molecules) in a two dimensional confinement, in the presence of a tilted magnetic or electric field with respect to the confining axis. We employ a time-independent quantum formalism using a frame transformation between spherical coordinates which represent the dipole-dipole interaction and cylindrical coordinates which represent the confining potential. Here the tilted field mixes different components m_l of the partial waves. We will present elastic and loss rates for both bosonic and fermionic particles as a function of the induced dipole moment, the confinement strength, and the tilted angle of the field.

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