Entanglement between two interacting atoms in a one-dimensional harmonic trap BO SUN, DUAN LU ZHOU, LI YOU — We investigate quantum entanglement properties between two interacting atoms in a one-dimensional harmonic trap modeled by by a contact pseudo-potential. We provide detailed results for the dependencies of atom-atom entanglement on the statistical nature of atoms being bosonic or fermionic, the scattering length, and temperature. Our results shines new light on quantum information and computation applications of cold atomic systems.

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