Open PhD position on cooperative effects with dense strontium BEC

We are initiating a new experimental project to produce dense Bose-Einstein condensation (BEC) of bosonic ^{88}Sr with the purpose of investigating cooperative effects involving large number densities of atoms. There is already a running cold strontium setup in the lab, where we have achieved a degenerate Fermi gas of ^{87}Sr [1]. We intend to produce the BEC of ^{88}Sr with the help of machine learning and new techniques [2] that does not require cooling a mixture of strontium isotopes. The dense cloud will be used in the studies of light scattering and transport in dense disordered medium, including cooperative shifts and broadening of a narrow transition, radiative trapping and Anderson localization of light.

We are looking for a highly motivated student with at least a bachelor's degree in physics or equivalent. Potential candidates should have a good background in quantum mechanics and electrodynamics, with a strong interest in experimental works involving optics and atomic physics.

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[1] M. Hasan *et al.*, "Evolution of an ultracold gas in a non-Abelian gauge field: finite temperature effect", Quantum Electron. **52**, 532-537 (2022).
[2] D. Wilkowski, "Runaway evaporation for optically dressed atoms", J. Phys. B: At. Mol. Opt. Phys. **43** 205306 (2010).