

Abstract Submitted
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Progress towards observation of coherent backscattering from two microscopic clusters of trapped atoms PASAD KULATUNGA, Hobart & William Smith Colleges — We report on the progress towards observing coherent back-scattering from two “sphere ” clusters of trapped ultra-cold ^{85}Rb atoms. The two clusters of atoms are composed of two microscopic dipole traps, each consisting of few hundred atoms. Each trap will be approximately $5\ \mu\text{m}$ in waist and are individually and dynamically configurable. The Coherent back-scattered signal is observed in an angular width of the order $1/kd$ where k is the wavenumber and d is the cluster (trap) separation. Ideally the back scattered peak should be a factor 2 greater than the back ground, any deviation from this is an indication of near-field effects.

Pasad Kulatunga
Hobart & William Smith Colleges

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