



Contribution ID: 312

Type: **Talk (preferred)**

Rapid production of metastable helium BEC using cross-beam dipole trap

Monday 12 December 2022 11:30 (15 minutes)

We demonstrate the laser cooling techniques for rapid production of a metastable helium BEC. The experimental setup features an in-vacuum magnetic trap and a cross-beam optical dipole trap. We obtained a pure BEC of 1 million atoms in 3.3 seconds.

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Session Classification: AIP: Atomic and Molecular Physics

Track Classification: AIP Congress: AIP: Atomic and Molecular Physics