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**Twin optical dipole traps for loading cold atoms** GHAZAL BEHINAEIN, PEYMAN AHMADI, GIL SUMMY, Oklahoma State University — Achieving high atom populations in optical traps (FORTs) is essential for various experiments especially for an all optical realization of a Bose-Einstein condensate. However an efficient loading of these traps still remains a challenge. In this poster we present results of the experimental study on the loading mechanism of these traps. We show that the FORT population ( $N_{FORT}$ ) is a sensitive function of the FORT volume. However the FORT size can't be chosen arbitrarily large since it reduces the evaporative cooling efficiency. To satisfy both of these conditions we propose a new geometry for optical traps, twin traps, in which the atoms are loaded into a FORT with large volume and then transported to a much tighter FORT which was overlapped with the first one. A detailed study of this method will be presented.

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