

Abstract for an Invited Paper  
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**Weak interaction and fundamental symmetry studies with laser trapped atoms<sup>1</sup>**

PETER MUELLER, Argonne National Laboratory

Neutral atom laser traps are excellent tools to capture, confine, and manipulate radioactive isotopes. They provide high selectivity and sensitivity and allow preparing a cold sample of the isotope of interest in the center of a vacuum chamber supported only by laser light. In my talk, I will present applications of laser cooling and trapping techniques of radioactive isotopes for precision studies of fundamental symmetries and weak interactions. In particular, I will talk about the progress towards measuring the Schiff moment of  $^{255}\text{Ra}$  for searches of time reversal violation beyond the Standard Model and about a new experimental effort to search for possible tensor couplings in the weak decay of  $^6\text{He}$ .

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