

## **Precise Atomic Calculations for Low-Energy Searches for Physics Beyond the Standard Model**

Precision atomic metrology gives us an extraordinary probe of physics beyond the Standard Model, but also necessitates accurate calculations of these systems for planning and supporting experiments, as well as to interpret the results as limits on new physics. Calculations in open-shell systems currently used or proposed for these experiments pose a challenge for atomic structure theory. I will present some motivations, methods, and results of calculations using the particle-hole CI+MBPT method implemented in the AMBiT code. All-order coupling of selected core shells allows the method to have accuracy comparable to coupled-cluster methods while being applicable across the entire periodic table.

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