

Atoms:

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Information concerning your project:

- Search for EDM using in atomic Radium. Depending on the atomic state it is mostly sensitive to a nuclear EDM in the ground state (nuclear structure enhancement factor), the electron EDM in the metastable 3D1 state and nuclear induce EDM in the metastable 3D2 state (atomic structure enhancement factors). We are explicitly interested in the exploitation of the large atomic enhancement factors.

- name and email address of contact persons / spokespersons: Lorenz Willmann (willmann@kvi.nl), Klaus Jungmann (jungmann@kvi.nl)

- website: <http://www.rug.nl/kvi/research/kvitrimp/index>

- link to a recent talk: on KVI webpage

- specific features (some keywords): neutral atom trap, Far off resonant dipole traps, sensitivity to different sources of EDMs

- major challenges (some keywords): efficient laser cooling and trapping (demonstrated with Ba, Phys. Rev. A **79**, 041402 (2009), availability of isotopes

- aimed at sensitivity: $<1e-28$ ecm for eEDM (enhancement factor 5000 for atomic EDM), $<1e-30$ ecm nuclear EDM, (enhancement >40000 for specific states)

