

## Nuclei in the Cosmos (NIC XVII)



Contribution ID: 98

Type: Poster

# Bubble nuclei with shape coexistence and alpha-decay half-lives in deformed relativistic Hartree-Bogoliubov theory in continuum

*Tuesday, 19 September 2023 17:35 (5 minutes)*

After introducing the details of the deformed relativistic Hartree-Bogoliubov theory in continuum (DRHBc), we present our recent results on the bubble nuclei with shape coexistence in isotopes from Hf to Hg and alpha-decay half-lives of W to U. We predict several exotic isotopes that have both bubble configuration and shape coexistence. We also calculate alpha-decay half-lives in DRHBc and compare our results with them from relativistic continuum Hartree-Bogoliubov with spherical symmetry to discuss deformation effects in alpha-decay.

**Primary author:** Dr CHOI, Yong-Beom (Pusan National University)

**Co-authors:** Prof. LEE, Chang-Hwan (Pusan National University); Dr KIM, Youngman (Institute for Basic Science)

**Presenter:** Dr CHOI, Yong-Beom (Pusan National University)

**Session Classification:** Poster session (Nuclear properties for astrophysics)

**Track Classification:** Nuclear properties for astrophysics