



Contribution ID: 350

Type: **Talk (preferred)**

## **New optical clocks based on Cu II, Yb III, Hf II, Hf IV, and W VI ions which may be used to search for dark matter and variation of the fine structure constant**

*Monday 12 December 2022 16:30 (15 minutes)*

- Study metastable excited states for these ions as clock transitions in optical clocks.
- Calculating several atomic properties.
- CI+SD and CIPT methods are used.
- Black body radiation (BBR) found  $10^{-16}$ - $10^{-18}$ .
- The enhancement coefficient reached  $K=8.3$ .

**Author:** ALLEHABI, Saleh

**Co-authors:** FLAMBAUM, Victor (University of New South Wales); Dr DZUBA, Vladimir (UNSW)

**Presenter:** ALLEHABI, Saleh

**Session Classification:** AIP: Atomic and Molecular Physics

**Track Classification:** AIP Congress: AIP: Atomic and Molecular Physics