



Contribution ID: 322

Type: **Talk**

## **【378】 Novel Developments in R-Matrix Theory**

*Thursday, September 2, 2021 6:45 PM (15 minutes)*

At present R-matrix analyses are widely performed in order to obtain a good representation of the experimental data, especially for light nuclear systems. A versatile R-matrix code with several non-standard capabilities was developed and successfully applied to experimental data. However, the standard R-matrix method can only be applied for binary reactions. Breakup channels, which may occur in light nuclear systems at rather low energies, can only be treated via approximations. In this contribution we present a novel R-matrix formalism for three-body breakup channels based on the Faddeev equations. The method has been numerical implemented and first applications will be presented.

**Authors:** Mr RAAB, Benedikt (Atominstitut, TU Wien); Prof. LEEB, Helmut (Vienna University of Technology (AT)); Ms STARY, Tanja (Atominstitut, TU Wien); Mr SRDINKO, Thomas (Atominstitut, TU Wien)

**Presenter:** Prof. LEEB, Helmut (Vienna University of Technology (AT))

**Session Classification:** Nuclear, Particle- & Astrophysics

**Track Classification:** Nuclear, Particle- and Astrophysics (FAKT - TASK)