



Contribution ID: 57

Type: **Poster Presentation**

## **Constraining the two-nucleon force in chiral EFT from three-nucleon data**

In previous works, the two-nucleon potential has been successfully determined to a high-precision level in the framework of chiral effective field theory. Nonetheless, there are still some free parameters of this potential, which cannot be extracted from two-nucleon data. The goal of the work presented in this talk is to adjust these parameters using three-nucleon data. Because of the high computational cost of three-nucleon scattering calculations, the scattering amplitude will be obtained using an emulator. The performance of this emulator will be investigated and discussed. This study does not only contribute to a better understanding of three-nucleon scattering data but may also improve ab-initio calculations of few- and many-body systems.

**Primary author:** HEIHOFF, Sven (TP II, Ruhr University Bochum)

**Co-author:** EPELBAUM, Evgeny (Ruhr University Bochum)

**Presenter:** HEIHOFF, Sven (TP II, Ruhr University Bochum)

**Session Classification:** Poster Session