Contribution submission to the conference Köln 2025

Proton range calibration for the R^{3}B-CALIFA calorimeter —
•Mrunmoy Jena, Roman Gernhäuser, and Tobias Jenegger —
Technische Universität München

The CALIFA (CALorimeter for In-Flight detection of gamma rays and high energy charged pArticles) is one of the most important detectors in the R^{3}B (Reactions with Relativistic Radioactive ion Beams) experiment. Being highly segmented and having almost full polar angle coverage ($7^o < \theta < 143^o$), this detector provides spectroscopic information for gamma rays and charged particle energies varying from 100 keV to about 300 MeV. The MPRB-32 charge sensitive preamplifiers coupled to the detection units can be operated in a low gain (gamma range) or a high gain mode (proton range), enabling a high dynamic range for the energy determination.

This presentation introduces a user-friendly, computer-controlled procedure that carries out an automatic calibration of the entire CALIFA calorimeter over the full dynamic range. The calibration is carried out using a combination of a ^{22}Na radioactive source and electronic pulser signals of known amplitudes.
Supported by BMBF 05P24WO2.

Part:	**HK**
Type:	**Vortrag;Talk**
Topic:	**Struktur und Dynamik von Kernen**
Keywords:	**CALIFA, R3B, calibration**
Email:	**mrunmoy.jena@tum.de**