

Description of the analysis

- We have unfolded the elemental energy spectra for H, He and heavy nuclei ($Z > 2$) for E (per particle) = [10, 251] TeV from a high-statistical sample of HAWC data.

Results

- HAWC results reveal individual softenings at tens of TeV, whose positions move to higher energies for heavy primaries.
- HAWC confirms the TeV knee-like features observed recently by DAMPE (2019&2021) for the spectra of H and He.
- Cosmic ray composition becomes heavier at high energies within the primary energy range 10 - 100 TeV.
- HAWC hints to possible hardenings close to 100 TeV in the spectra of H and He.

