

Plenary Talk PV I Mon 13:30 HBR 14: HS 1
Mapping Highly-Energetic Messengers throughout the Universe — ●SARA BUSON — Fakultät für Physik und Astronomie,
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Cosmic rays prove that our Universe hosts elusive astrophysical "monsters" capable of continuously and efficiently accelerate particles at extreme energies. High-energy photons and neutrinos may provide the ultimate key to decipher the mystery of cosmic rays. In 2017,

the candidate detection of neutrino emission from the direction of the gamma-ray flaring blazar TXS 0506+056 has put forward gamma-ray blazars as promising neutrino point-sources, hence cosmic-ray accelerators. However, to date there is neither a consistent picture for the physical mechanism nor a theoretical framework capable of convincingly explain the full set of multi-messenger observations. This contribution presents initial encouraging steps in this multimessenger (electromagnetic and neutrino) quest and discusses the latest status of the field.