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## Searches for TeV emission from Northern Hemisphere pulsars with VERITAS

The discovery of VHE emission from the Crab pulsar and, more recently, multi-TeV emission from the Vela pulsar have challenged our current understanding of the emission mechanisms of these sources. Studying pulsar emission at TeV energies allows us to understand the engines that power some of the most extreme accelerators in the Galaxy and their roles as potential positron factories. We present recent highlights from the VERITAS pulsar program using nearly two decades of VERITAS data and novel high energy analysis techniques optimized for emission up to 100 TeV. This work begins to characterize how the emerging population of multi-TeV pulsars can be predicted from existing multi-wavelength observations. In particular, we highlight a search for VHE emission above 1 TeV using over 17 years of Crab pulsar data, which extends the high energy end of the existing VERITAS spectrum. Additionally, we search for both optical and multi-TeV emission from bright Vela-like pulsars, including analysis of over 200 hours of data on PSR J2229+6114, which powers the Boomerang pulsar wind nebula and is putatively associated with ultra-high-energy source 1LHAASO J2229+5927u. We discuss these results in the context of the broader pulsar population and their impacts on the prospects of new pulsar discoveries with next-generation VHE instruments.

### Collaboration(s)

VERITAS Collaboration

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