

# Evidence of hadronic origin of the gamma-ray emission from the nova RS Oph by the MAGIC telescopes

*Monday 10 October 2022 15:00 (15 minutes)*

RS Ophiuchi (RS Oph) is a symbiotic recurrent nova that shows eruptive events roughly every 15 years. On August 8th, 2021, RS Oph erupted with its latest outburst. This event was detected by a wide range of multi-wavelength (MWL) instruments from radio up to very-high-energy (VHE) gamma rays. The MAGIC telescopes followed up on optical and high-energy triggers and initiated an observation campaign from August 9th till September 1st. RS Oph is the first nova detected in the VHE gamma-ray energy range. We report on the detection of VHE gamma rays at a significant level of  $13.2\sigma$  during the first 4 days of RS Oph with the MAGIC telescopes. We combine the VHE emission detected by MAGIC with optical and high energy observations and conclude RS Oph accelerated hadrons during its eruption. We will present the MWL modeling revealing this hadronic emission, and its further implications for Galactic cosmic-rays.

## Track

Binaries

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