

Transient gamma rays from the 2021 outburst of RS Ophiuchi

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RS Ophiuchi is a recurrent nova which explodes on average every 15 years. These explosions result in nova shocks from which non-thermal particles and radiation are produced. In fact, the most recent outburst of RS Ophiuchi in 2021 has been observed by a few different gamma-ray instruments including FERMI-LAT, HESS and MAGIC. Interestingly, the highest TeV gamma rays are only detected about two days after the detection of GeV gamma rays such that there is a delay of about two days between the peaks of GeV and TeV gamma-ray light curves. Different models have been proposed to explain this delay, e.g. by involving multiple nova shocks or different production mechanisms (leptonic versus hadronic) for GeV and TeV gamma rays. In this talk, we discuss a possibility to explain the delay between GeV and TeV emissions by taking into account the effect of gamma-ray absorption due to interactions between gamma rays and optical photons emitted also during the outburst.

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