

Radar and optical observations of meteor showers, a comparative study

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We present a comparison of radar and optical meteor shower radiant distributions with the Southern Argentina Agile Meteor Radar (SAAMER) and the Cameras for Allsky Meteor Surveillance (CAMS). This study comprises 7 years of meteor radar surveillance with SAAMER and over 8 years of the CAMS optical meteor survey. In total, over 5 million meteor radar and 500,000 optical meteor orbits are secured thus providing a robust statistical dataset to perform a comparison test of radar and optical detection of meteor showers. With a 5-fold increase in SAAMER orbits, we revisit the initial SAAMER shower survey and compare the 26 known meteor showers against those reported by CAMS in the optical. We extend our comparison test by further including the new 34 showers reported by SAAMER and present the case of two short-lived meteor shower outbursts: the 2016 Volantids and the 2019 Delta Pavonids.