

New survey of meteor showers

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In order to confirm the many showers listed in the IAU Working List of Meteor Showers in need of verification, a 60-camera three-station video surveillance of the night sky is being conducted in the San Francisco Bay Area in California (<http://cams.seti.org>), called the Cameras for Allsky Meteor Surveillance (CAMS) project [1]. Now, the first 2.5 years of observations were reduced and analyzed, comprised of 112,024 meteoroid trajectories from mostly +4 to -2 magnitude meteors. The trajectories were calculated with a mean precision of 0.24° in radiant direction and 2 % in speed. An interactive tool was developed to study the distribution of meteoroid radiant and speed after correction for Earth's motion around the Sun. A report was submitted for publication in *Icarus* [2]. Our team assigned 30,801 meteors to 320 showers (27.5 %). This included 72 established showers and 64 known but now confirmed showers. An additional 24 previously reported showers were tentatively detected, but need further study. This study adds 105 potential new showers and 23 newly identified components of established showers to the IAU Working List of Meteor Showers. Another 32 showers previously reported based all or in part on CAMS data were detected again. The Northern and Southern Taurids, especially, are found to be composed of a series of individual streams. In this presentation, I will summarize statistical aspects of these shower detections and their relation to parent body near-Earth objects to shed light on the role of mostly dormant comets in contributing dust to the inner solar system.

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References: [1] Jenniskens, P., Gural, P. S., Dynneson, L., Grigsby, B. J., Newman, K. E., Borden, M., Koop, M., Holman, D., 2011. CAMS: Cameras for Allsky Meteor Surveillance to establish minor meteor showers. *Icarus* 216, 40–61. [2] Jenniskens, P., Nénon, Q., Albers, J., Gural, P. S., Haberman, B., Holman, D., Morales, R., Grigsby, B. J., Samuels, D., Johannink, C., 2014. CAMS: A survey of meteor showers from +37°N. *Icarus* (submitted).