

## Meteor stream activity. V. The Quadrantids, a very young stream.

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Abstract (from CDS): This paper presents the first large set of precisely reduced orbits of Quadrantid meteoroids. These orbits were obtained from photographic observations during the 1995 return of the Quadrantid stream. The orbits refer to the main peak of the activity curve, with an unidentified few being part of a broad background component. The measured dispersion of orbits is less than from previous data obtained by less accurate techniques. In combination with existing stream models, we conclude that the main component is only about 500 years young, much less than the 5000-7500 year age that was widely assumed before. This main peak is now interpreted as an "outburst", with an evolution history similar to other near-comet type outbursts, while the background is thought to be the classical "annual" dust component. The stream does not originate from comet 96P/Machholz 1. Rather, the parent object may be hiding as an asteroid-like object in a high-inclination orbit. An estimate of that orbit is given.

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