

METRO campaign 1998-2002: Five-year study of the meteor train applying amateur observations

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After the appearance of bright meteors, we can observe the meteor train. The persistent meteor trains are rarely detected because of its faint and quickly-disappearing feature. In order to detect the persistent train images with high time/spatial resolution, we have to take telephoto images of the faint plasma cloud within 30 seconds. It requires many watchers for the fireball event. We have conducted the meteor train observation (METRO) campaign in Japan since 1998 and called for the train images from amateur observers. Successful results were obtained in these 5 years (Toda et al., 2002). Especially in 2001, we encountered the Leonids meteor storm over Japan, and a lot of bright fireballs with long-lived persistent trains were detected: we obtained 36 samples of simultaneously observed meteor trains. Morphology and 3-D structures of the meteor trains were already reported by Higa et al.(2002) and Yamamoto et al.(2002), respectively. The METRO campaign derived successful results in the meteor science as well as in the educational aspects, i.e., it suggested an new possible direction of the future geophysical research.

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References

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