Meteor Shower Activity derived from "Meteor Watching Public Campaign" in Japan

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Introducation

The public-campaign is one of the outreach programs which we perform in Japan, such as "Watch a comet", "Watch planets", "Watch a meteor shower" and "Watch an eclipse". This is widely announced to the public by the Public Relations Center in the National Astronomical Observatory of Japan. We received more than a few thousands of reports every time. The main purpose of the campaigns is to interest the general public in astronomical phenomena. However, we have noticed that we might be able to extract some scientific results from these reports because of its huge numbers. Therefore we tried to derive the hourly rate of meteor showers from accumulated data of some campaigns, which resulted in the success described in the previous report [1].



Figure Hourly Rate of Geminids in 2009. The solid line with diamond marks is the results of our campaign and the dashed line with triangle marks is the results of the Nippon Meter Society [1].

New Work

We tried to analyze activities of meteor showers from accumulated data collected by public- campaigns which were performed as outreach programs after 2010. Thanks to the huge number of reports, the derived time variations of the activities of meteor showers are very similar to those obtained by skilled visual observers, although the values of hourly rates are lower by one-fifth or one-fourth compared with the data of skilled observers, mainly due to poor observational sites such as large cities and urban areas, together with the immature skill of participants in the campaign. Even if we should have such difference in the absolute value of the hourly rates, it is clear that we have a potential to extract scientific results from such outreach programs related to the meteor showers mainly due to the huge number of the reports. The results will be presented in this paper.

References

[1] Sato, M., Watanabe, J. NAOJ campaign Team, in Meteoroids: The Smallest Solar System Bodies, Proceedings of the Meteroids Conference held in Breckenridge, Colorado, USA, May 24-28, 2010. Edited by W.J. Cooke, D.E. Moser, B.F. Hardin, and D. Janches. NASA/CP-2011-216469., p.31-35, 2011