

Independent Identification Method applied to EDMOND and SonotaCo databases

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In recent years, networks of low-light-level video cameras have contributed many new meteoroid orbits. As a result of cooperation and data sharing among national networks and International Meteor Organization Video Meteor Database (IMO VMDB), European Video Meteor Network Database (EDMOND; [2, 3]) has been created. Its current version contains 145 830 orbits collected from 2001 to 2014. Another productive camera network has been that of the Japanese SonotaCo consortium [5], which at present made available 168 030 meteoroid orbits collected from 2007 to 2013.

In our survey we used EDMOND database with SonotaCo database together, in order to identify existing meteor showers in both databases (Figure 1 and 2). For this purpose we applied recently introduced independent identification method [4]. In the first step of the survey we used criterion based on orbital parameters (e , q , i , ω , and Ω) to find groups around each meteor within the similarity threshold. Mean parameters of the groups were calculated using Welch method [6], and compared using a new function based on geocentric parameters (λ , α , δ , and V_g). Similar groups were merged into final clusters (representing meteor showers), and compared with the IAU Meteor Data Center list of meteor showers [1]. This poster presents the results obtained by the proposed methodology.

Acknowledgements

The work is supported by the Slovak grant APVV-0517-12 and VEGA 1/0225/14.

References

[1] IAU Meteor Data Center: <http://www.astro.amu.edu.pl/~jopek/MDC2007/>

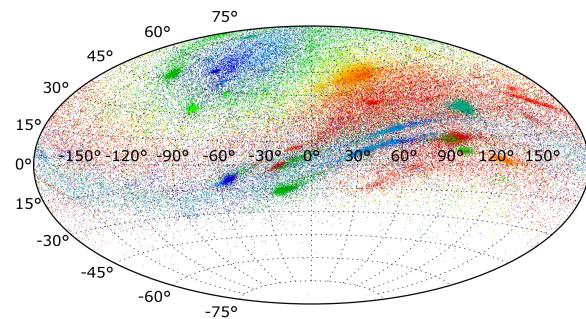


Figure 1: Radiants of all meteors in the EDMOND database.

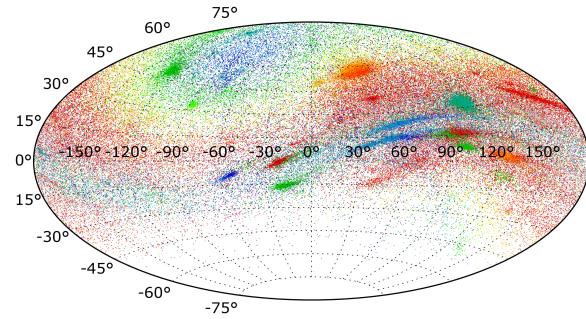


Figure 2: Radiants of all meteors in the SonotaCo database.

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