

Interactive comment on “Meteor science from regular incoherent scatter radar ionospheric observations at Arecibo” by M. P. Sulzer

Anonymous Referee #2

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This paper describes the head echo data collected from two observational periods - March and September of 2003. The observation geometry is explained in detail. The main focus of the paper is on the velocity distribution of the measured meteoroids. I recommend the publication of this paper in ACP with some modifications (see below). The followings are my comments and suggestions:

(1) My main concern of the paper is the suggestion that there is a population of meteoroids moving in orbits around the Sun with similar parameters as the Earth, but in retrograde direction (i.e., semimajor axis=1 AU, eccentricity $\sim$ 0, inclination $\sim$ 0). There are no known asteroids/comets in such orbits. From the dynamical point of view, it is almost impossible for meteoroids to evolve to such orbits from known asteroids/comets/Kuiper Belt Objects located somewhere else. Even with the statement "We do not even claim this as a potential description (the third paragraph in section 1)", it is too strong to

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have the suggestion listed in three places in the paper (abstract, sections 1, and 5). A peak near 60 km/s is insufficient to even make the suggestion.

(2) The title of the paper appears to be too broad. My recommendation is to either change it to something like "Meteoroid velocity distribution derived from the head echo data collected at Arecibo" or to add additional materials (e.g., intensity/mass distributions) to the paper.

(3) I think this will be a much better paper if the author would consider applying bias corrections (e.g., in velocity) to the data before any modeling effort is made.

Interactive comment on Atmos. Chem. Phys. Discuss., 4, 805, 2004.

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