

## ***Interactive comment on “On the magnetic characteristics of magnetic holes in the solar wind between Mercury and Earth” by Martin Volwerk et al.***

### **Anonymous Referee #1**

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Magnetic Holes in the solar wind are a narrow, but unsolved classical problem in the micro-structure of interplanetary space plasmas. The MESSENGER magnetic field data set between 1 and 0.3 AU is unique and highly appropriate data set for the study of magnetic holes. The authors do an excellent job of summarizing what is known about magnetic holes and how they appear to evolve with distance from the Sun. The new MESSENGER results presented here strongly support the conclusion that the orbit of Venus, i.e. 0.7 AU, is an important break-point with a marked change in how the holes evolve with distance inside and outside of this point. The paper is very well written, the analyses are sound, the figures are all necessary and well done, and the conclusions are well supported and significant. I recommend that the current version

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of the manuscript be accepted for publication.

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