

## ***Interactive comment on* “Review article: Kinematic models of the interplanetary magnetic field” by Christoph Lhotka and Yasuhito Narita**

### **Anonymous Referee #1**

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This draft reviews basic concepts of the large-scale heliospheric magnetic fields mainly from the kinematic framework. I have the following (mostly minor) comments:

1. Fig.2 The blue, red, and gray lines should be defined in the caption.
- 2.The caption of Fig.3 The authors should explain the line types and the numbers (24.47h, etc.: Rotational period) in the caption or in the panel.
3. Fig.4 and Section 2.1.4 In the section 2.1.4, it seems that the authors focuses on the situation, in which  $B_{\theta}=0$  (eq.20). But Figure 4 shows field lines with non-zero  $B_{\theta}$ . Probably, the formulation of eqs.(22) - (25) in the same section takes into account  $B_{\theta}$ . I think more explanations are necessary, which is friendly to readers.

4. eq.(49) The scaling should be  $r^{-1}$ , instead of  $r$ . (I think this is simply a typo. )

5. eq.(50) It is probably better to refer to old works (Alazraki & Couturier 1971; Belcher 1971), in addition to the recent works that are already cited in the present paper.

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Interactive comment on Ann. Geophys. Discuss., <https://doi.org/10.5194/angeo-2018-133>, 2018.

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Discussion paper

