

Interactive
Comment

Interactive comment on “Radio-frequency probes of Antarctic ice birefringence at South Pole vs. East Antarctica; evidence for a changing ice fabric” by D. Besson et al.

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This paper presents a nice study of birefringence performed at South Pole Station. My comments in detail are attached. My main points are

1. Data set is interesting, well presented and proves their point of no birefringence beneath South Pole Station.
2. Implications regarding glaciological dynamics should be removed or relegated to very minor status; especially in the Abstract. These, and measurements of others are too local to make such generalizations about the East Antarctic Ice Sheet and ice fabric.

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3. Purpose (to measure birefringence), objectives (to measure reflections) and brief approach need to be summarized at the end of the Introduction in an extra 1-2 paragraphs. A justified hypothesis regarding presence or not of birefringence would be helpful; why would horizontal flow cause birefringence? As it stands it appears that these measurements were obtained for glacial dynamics purposes but I think they were obtained to check on ice homogeneity for Icecube and other cosmologic reasons.

4. Implications for deep soundings using short pulse radars with pulses centered significantly above 200 MHz should be discussed.

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Please also note the supplement to this comment:

<http://www.the-cryosphere-discuss.net/6/C2340/2012/tcd-6-C2340-2012-supplement.pdf>

Interactive comment on The Cryosphere Discuss., 6, 4695, 2012.

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