

Interactive comment on “Implementation of Polarization Diversity Pulse Pair Technique using airborne W-band radar” by Mengistu Wolde et al.

Anonymous Referee #3

Received and published: 30 October 2018

This paper describes the first application of the polarization diversity pulse pair processing technique to derive Doppler measurements from the air. This is a first step towards the application of the technique to measure 3D winds from a space based platform. While the paper highlights some deficiencies, the advantage of the technique is in the measurement of unambiguous velocities exceeding 100 m/s. The paper is well written and my comments are entirely technical.

As a general comment, "antennas" is typically used as plural in reference to radars, "antennae" in relation to bugs. Both are technically correct and authors choice.

Figure 1 - lists top and bottom panels, where they are actually laid out side by side

Figure 2 - caption does not refer to (a), (b), (c) and (d)

C1

Page 5 line 2 - add "the" in front of radar

Page 6 line 1 - add "as" to read "such as at the antennae"

Page 6 line 8 - "clear air condition" should have an s on the end

Page 6 - Figure 4 is referred to before Figure 3, and similarly Table 3 before Table 2. Consider swapping the figures and tables so they are referred to in order.

Figure 4 - the date at the top of panel a says 2016, while the caption says 2017, and panel b has no date

Figure 5 - refer to caption letters

Page 13 line 1 - I think should read modular rather than module?

Page 13 line 5 - remove capitalisation from A CloudSat

Page 14 - equation 9 also has a reference to equation 8

Page 15 line 7 - extra/missing bracket

Page 16 line 1 - has PP10 mode been defined?

Page 16 line 2 - add "the" to read "for the remainder of the flight duration"

Page 16 line 17 - add a full stop after aircraft

Page 19 line 11 - add "a" to read "there are a few aliased points"

Page 19 line 32 - change "allows to estimate" to "allows an estimate" or similar

Page 21 line 5 - add a space between limit and the bracket

page 21 line 7 - add a space before the bracket

Page 21 line 9 - add "the" to read "can be seen at the beginning"

Page 22 line 3 - add an s to level

C2

