Yamada, Y., 2021: An efficient practical post-processing algorithm for the quality control of dual-PRF Doppler velocity data. *J. Meteor. Soc. Japan*, **99**, https://doi.org/10.2151/jmsj.2021-036.

Plain Language Summary: An efficient, practical post-processing algorithm was developed for the quality control of dual-pulse repetition frequency (dual-PRF) Doppler velocity data observed in plan position indicator (PPI) mode. The proposed algorithm relies on the local continuity of velocity data, as do most of the preexisting algorithms. Its uniqueness, however, lies both in the preparation of more reliable reference velocity data and its applicability to PPI data at higher elevation angles. The performance of the algorithm is demonstrated by its application to observed data from C- and X-band Doppler radars. As shown in Fig. 1, the algorithm completely corrects the errors in the observed data at high elevation angle without affecting data regarded as good quality. This algorithm is practical, efficient, and not time consuming. It may be of great help in the derivation of accurate wind information from dual-PRF Doppler velocities.

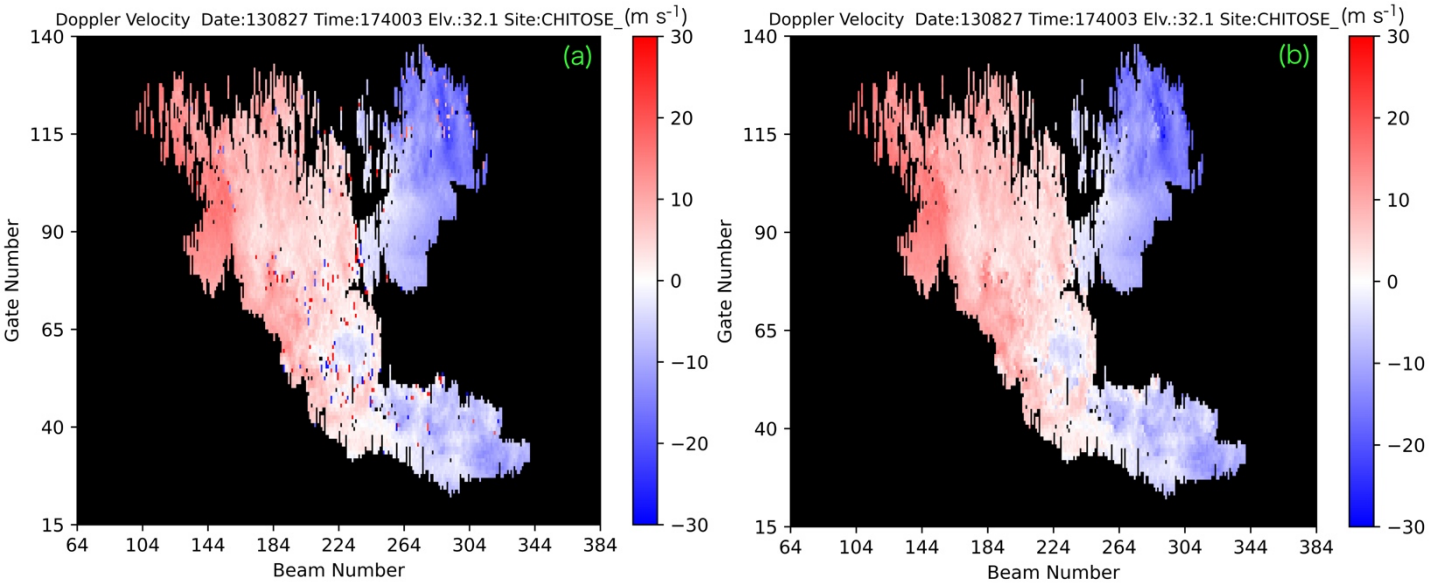

Figure 1. (a) Beam-by-beam representation of Doppler velocity data from the New Chitose radar (located at located at 141.6767°E and 42.7961°N) at C-band in a PPI scan at an elevation angle of 32.1° at 1740 JST on Aug. 27, 2013. The observed velocities in this PPI scanning are confined to a limited area, as indicated in this figure. The range of the abscissa (ordinate) is from 64 to 384 (from 15 to 140), and the respective azimuth (range) is from 44.3°to 269.3° (from 2.25 km to 21 km). (b) As in Fig. 1a, but for the corrected field.

Highlights:

a. New algorithm for the determination of more reliable reference velocity data for correction.

b. High performance even at higher elevation angles.

c. Efficient practical algorithm.