

Arias, I., and V. Chandrasekar, 2021: Cross validation of the network of ground-based radar with GPM during the Remote Sensing of Electrification, Lightning, And Mesoscale/microscale Processes with Adaptive Ground Observations (RELAMPAGO) field campaign. *J. Meteor. Soc. Japan*, **99**, 1423-1438. <https://doi.org/10.2151/jmsj.2021-069>

Plain Language Summary: We present an intercomparison between three C-band radars deployed during RELAMPAGO with the spaceborne radar KuPR on board GPM. We also compare these C-band radars with each other. Each radar is compared pairwise with one another, including KuPR. Evaluating the network consistency is the unique aspect of this paper, in addition to the comparison with the space borne radar. The attenuation correction coefficient was tuned to the local microphysical environment to achieve improved accuracy of reflectivity.

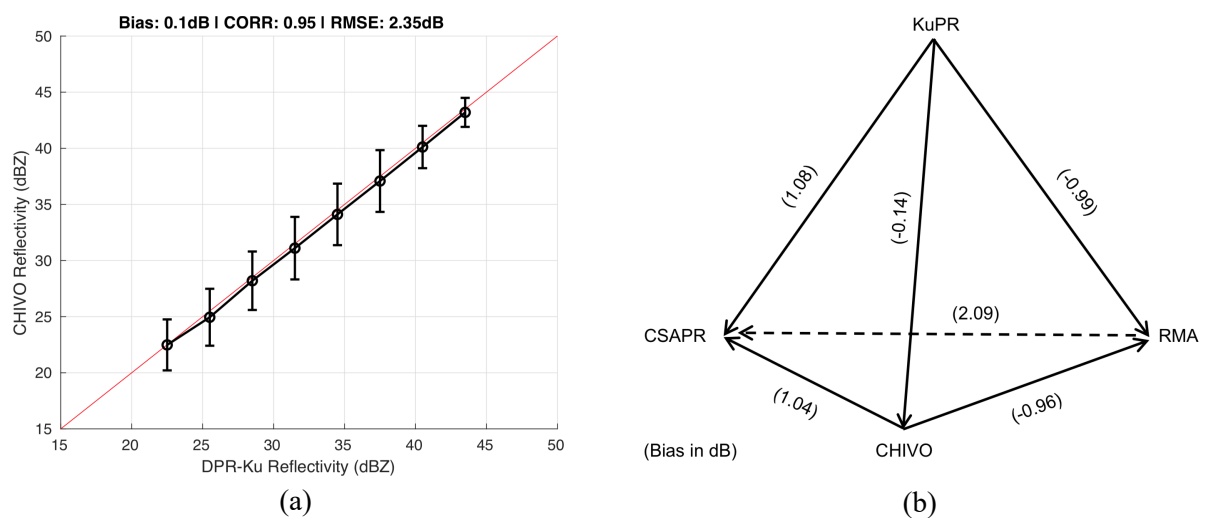


Figure 1. (a) CSU-CHIVO and KuPR reflectivity comparison for January 13, 2019 case at 4:02 UTC. The dots represent the mean and bars one standard deviation. (b) Estimated bias between pairs of radars in the network.

- The bias between KuPR and the C-band radars reduces when the locally tuned attenuation correction algorithm is used.
- The residual bias between three of the radars is used to have a sense of the bias consistency in the network.
- The bias between each pair of radars is recalculated using the information from the other radars in the network.
- The consistency of the biases in the network is brought to less than 0.2 dB after recomputing the bias for each pair of radar.