Japan Geoscience Union Meeting 2014

(28 April - 02 May 2014 at Pacifico YOKOHAMA, Kanagawa, Japan)

©2014. Japan Geoscience Union. All Rights Reserved.



PEM06-P02

Room:Poster

Time: April 30 18:15-19:30

Development of a configurable digital receiver for atmospheric radars

YAMAMOTO, Masayuki^{1*}; GAN, Tong¹; FUJITA, Toshiyuki¹; NOOR HAFIZAH BINTI, Abdul aziz¹; OKATANI, Yoshikazu¹; HASHIGUCHI, Hiroyuki¹; YAMAMOTO, Mamoru¹

Recent progress in radar imaging techniques enables high-resolution measurements of wind and turbulence by atmospheric radars. In order to implement radar imaging techniques to existing atmospheric radars, a cheap multi-channel receiver needs to be developed. Further, for improving and verifying radar imaging techniques, a digital receiver which can change its real-time signal processing is highly useful. We are now developing a low-cost configurable digital receiver. Because the digital receiver comprises a general-purpose software-defined radio receiver and a personal computer, its purchase cost is low and its real-time signal processing is easy to be implemented. In the presentation, we report the current development status of the digital receiver.

Keywords: atmospheric radar, wind profiler radar, digital receiver, software-defined radio technique, Universal Software Radio Peripheral (USRP)

¹Research Institute for Sustainable Humanosphere, Kyoto University