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[\[PDF \(1832K\)\]](#) [\[References\]](#)**DSM and ORI Generation Using PRISM**Junichi TAKAKU¹⁾ and Takeo TADONO²⁾

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Abstract

Panchromatic Remote-sensing Instrument for Stereo Mapping (PRISM) carried at Advanced Land Observing Satellite (ALOS) is expected to generate worldwide topographic data in respects of its high resolution and stereoscopic observation. The algorithms for generating Digital Surface Model (DSM) and Ortho-Rectified Image (ORI) have been developed for those objectives in Earth Observation Research Center/Japan Aerospace Exploration Agency (EORC/JAXA). During first one year following the successful ALOS launch, the capabilities of the algorithm have been widely tested. In this paper, intermediate results of performance analysis of DSM and corresponding ORI processing are described. First, the geometric model analysis of PRISM sensor is presented with the experimental results of the orientation processing. Then, the performance analysis of DSM and ORI generated with the PRISM geometric model is presented. The accuracy assessment results of generated DSM are presented from the comparison with high accuracy and high resolution reference DSM data sets of LiDAR DSM and Aerial Photo DSM. The accuracy assessment results of generated ORI are presented from the comparison with GCP.

Keywords: digital surface model (DSM), ortho-rectified image (ORI), PRISM, ALOS

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