

Lecture : Development of Advanced Synthetic Aperture Radar Technology for Earth Diagnosis

by :

Josaphat Tetuko Sri Sumantyo, Ph.D, Associate Professor

Center for Environmental Remote Sensing, Chiba University

Abstract

Synthetic Aperture Radar (SAR) is a multipurpose sensor that can be operated in all-weather and day-night time. Conventionally, the SAR sensor has been operated in linear polarization with limited retrieved information. In this research, we are developing Circularly Polarized Synthetic Aperture Radar (CP-SAR) sensor for unmanned aerial vehicle and small satellite for Earth diagnosis. Comparing to linear polarized systems, the CP-SAR sensor has the advantage of compactness and low power requirement, since the transmission of CP microwave is not affected by the Faraday rotation effect in the ionosphere. In this presentation, the applications of synthetic aperture radar images for disaster monitoring by using Differential Interferometric Synthetic Aperture Radar (DInSAR) technique are also introduced.

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Contact person : Lilik Budi Prasetyo (08121335130)