STT59-08　　　　　　　Room:414　　　　　　　Time:April 29 11:00-11:20

Recent progress in InSAR and PolSAR signal processing

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This invited talk reviews latest technology in synthetic aperture radar (SAR) signal processing, in particular interferometric SAR (InSAR) and polarimetric SAR (PolSAR), by focusing on the works on adaptive processing made by the author's group. This field attracts more attention because of its usability in solving serious social problems through, e.g., disaster monitoring and mitigation, water resource management, and prevention of global warming. We discuss a radar-physics-based adaptive processing framework, namely complex-valued neural networks, to increase variety of observation functions and/or improve the accuracy. We also introduce a new phase-unwrapping method to discuss its recent progress.

Keywords: synthetic aperture radar, interferometry, polarimetry, complex-valued neural newtork, phase unwrapping, Singularity-spreading phase unwrapping