



Personal information

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About the Author

Otmar Loffeld received the Diploma degree in electrical engineering from the Technical University of Aachen in 1982, the Eng. Dr. degree, and the 'habilitation' in the field of digital signal processing and estimation theory in 1986, and 1989, respectively, both from the University of Siegen. In 1991 he was appointed as a professor for digital signal processing and estimation theory at the University of Siegen. Since then he gives lectures on General Communication Theory, Digital Signal Processing, Stochastic Models and Estimation Theory and Synthetic Aperture Radar. He is author of two textbooks on estimation theory. In 1995 Prof. Dr. Loffeld became a member of the Center for Sensorsystems (ZESS) which is a central scientific research establishment at the University of Siegen. Since 2005 he is the Chairman of that Center. In 1999 he became Principal Investigator (PI) on Baseline Estimation for the X-Band part of the Shuttle Radar Topography Mission (SRTM) where ZESS contributed to DLR's baseline calibration algorithms. Prof. Loffeld is PI for interferometric techniques in the German TerraSAR-X mission, and, together with Prof. Ender from FGAN, he is one of the PI's for a bistatic spaceborne airborne experiment, where TerraSAR-X will serve as the bistatic illuminator while FGAN's PAMIR system mounted on a Transall airplane will be used as a bistatic receiver. Prof. Loffeld is a member of the ITG/VDE and Senior Member of the IEEE/GRSS.

Research interest

His current research interests comprise multi sensor data fusion, Kalman filtering techniques for data fusion, optimal filtering and process identification, SAR processing and simulation, SAR-interferometry, phase unwrapping, and baseline estimation. A recent field of interest is bistatic SAR processing.

Summary

Progress in Bistatic SAR Concepts and Algorithms

Definitions, Advantages, Challenges,
 Modeling the Problem,

Bistatic Configurations:

Translationally Invariant

Constant Offset

Tandem

General Case

Hybrid Experiments – Satellite Airborne

Processing Concepts

Overview

Method of Stationary Phase

ZESS Approach (LBF)

Results

Outlook - References