



Personal information

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About the Author

Uwe Stilla was born in Cologne, Germany, in 1957. In 1980, he received a diploma (Dipl-Ing) in electrical engineering from Gesamthochschule Paderborn, Germany, and in 1987 he received an additional diploma (Dipl-Ing) in biomedical engineering from the University of Karlsruhe, Germany. From 1990 until 2004, he was with the Institute of Optronics and Pattern Recognition (FGAN-FOM), a German research establishment for defense-related studies. In 1993, he received his PhD (doctor of engineering) from the University of Karlsruhe with work in the field of pattern recognition. Since 2004, Prof. Uwe Stilla is the head of the Department of Photogrammetry and Remote Sensing, and currently director of the Institute of Photogrammetry and Cartography at Technische Universität München. He is currently the dean of Student Affairs of the Diploma, Bachelor's, and Master Program "Geodesy and Geoinformation" in the Faculty of Civil Engineering and Geodesy. Additionally, he is involved in the master's course "Earth Oriented Space Science and Technology" and "Land management and Land Tenure." He has the chair of the ISPRS working group "Road Extraction and Traffic Monitoring" and is steering committee member of the institute's joint research lab "Image Understanding for High Resolution Remote Sensing". His research focuses on image analysis in the field of photogrammetry and remote sensing. He has published more than 160 contributions, of which more than 40 are peer-reviewed.

Research interest

Urban Remote Sensing

Summary

SAR image exploitation of urban areas

New synthetic aperture radar (SAR) sensors on satellites like TerraSAR-X allow flexible mapping with a large coverage or a high resolution of about one meter. Leading-edge airborne SAR sensors provide spatial resolutions on the order of a decimetre. In such data, many features of urban objects can be identified, which were beyond the scope of radar remote sensing before. But, SAR images are often really difficult to be interpreted: the presence of speckle as well as of some distortion effects, like shadowing and layover, makes the analysis of this kind of image complex. The impact of high resolution SAR data on the analysis of urban scenes and typical SAR effects are discussed. Examples for the appearance of buildings and other man-made objects are given. The benefit of SAR-simulation is addressed and examples are shown. Finally, typical problems in SAR simulation are discussed.

