GBSAR for Slope Monitoring of Open Pits

Wolfgang Niemeier, Björn Riedel, Donglie Liu and Martin Lehmann

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ABSTRACT:

In recent years the technology of radar interferometry was brought "down to earth": The nowadays available systems for "Ground Based Synthetic Aperture Radar (GBSAR)" are a powerful tool to monitor surface deformations for distinct areas and with high resolution resp. precision.

In this paper the basic concepts for this new, innovative technology are explained, including radar principles, technical realisation and data processing. Here not only the IBIS-L system, which is used in our project, but also technological alternatives are considered.

Then the application of the IBIS-L system for monitoring of an open pit slope is discussed from the conceptual as well as from the practical point of view. Some details, typical problems and potential solutions during the realisation and results of the up to now two measuring campaigns are presented.

Finally the overall potential of this technology for monitoring of deformations in open pit areas will be given.