

應用時域相關點雷達干涉觀測嘉義、台南地區地表變形

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摘要 本研究使用合成孔徑雷達干涉技術中之時域相關點雷達(Temporarily Coherent Point SAR Interferometry, TCPInSAR)方法, 監測嘉義、台南地區 2007 至 2011 年地層下陷情況, 研究中使用 ALOS 衛星 2007 至 2011 年間 16 幅衛星影像進行計算。本研究之方法具有能快速取得大面積資訊及高密度點位之優勢, 且不需耗費大量人力及經費, 對比傳統上監測地表變形的的方法, 如水準測量以及 GPS 測量, 更適合監測大範圍之地表監測上。本研究相關計算分析正嚴密進行中, 最後結果將與若干水準測量監測結果進行比較, 以分析 TCP-InSAR 之精度。

關鍵詞 : InSAR、ALOS、地層下陷。

Detection of Ground Surface Deformation in Chiayi and Tainan by Using Temporarily Coherent Point SAR Interferometry

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ABSTRACT We use Temporarily Coherent Point SAR Interferometry (TCPInSAR) method to monitor land subsidences in Chiayi and Tainan during 2007~2011. Sixteen of ALOS satellite images from 2007 to 2011 are selected for TCPInSAR analysis in this study. Compared to leveling and GPS surveys, InSAR technique is more suitable for land monitoring to obtain dense data efficiently and economically, especially in large-scale areas. The related research and programs of TCPInSAR are being analyzed and developed, and subsequently the TCPInSAR-derived results will be compared and evaluated by leveling observations.

Key Words : InSAR, ALOS, land subsidence.

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