Relationship of the grand deformation and topography in Sapporo City at the 2018 Hokkaido Eastern Iburi Earthquake confirmed by InSAR analysis

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In the 2018 Hokkaido Eastern Iburi Earthquake, ground displacement and building damage occurred extensively. It is thought that it is important to promptly grasp the damage caused by a natural disaster in order to advance disaster reduction. In this study, the results of SAR analysis using Sentinel - 1 satellite were investigated for validity and cause using interpretation of aerial photograph and field survey.

As a result of SAR analysis, displacement was observed in Satozuka・Utsukushigaoka・Kiyota, Kiyota Ward, Hiragishi, Toyohira Ward, and Fushiko・Naebo, Higashi Ward in Sapporo City. For these districts, I performed an investigation by the local survey and aerial photo reading.

As a result of investigation, the spot that ground movement produced confirmed that I agreed with the spot where big displacement was estimated on InSAR analysis. The correlation with the old topography and the Embankment place is high in the ground change confirmed this time

It was revealed that I could grasp the damage situation of the wide area in a short time by using the inSAR data with the, Sentinel-1 satellite about the ground damage after the 2018 Hokkaido Eastern Iburi Earthquake.

Keywords: Interferometric SAR, Ground displacement, 2018 Hokkaido Eastern Iburi Earthquake

