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Alternative Data Source for Monitoring of Nuclear Activity: KOMPSAT Constellation

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Very High Resolution (VHR) satellite images are used to verify the correctness and completeness of declarations provided by member States, and to generate preparatory information for on-site inspections and technical visits. VHR satellite images are also used for collect data for nuclear monitoring in inaccessible areas of interest. Most satellites acquire image in the morning, and the better resolution requires higher costs.

This presentation is focused on introduction of alternative VHR satellite images: KOMPSAT (Korean Multi-Purpose SATellite) constellation. KOMPSAT-2 (1.0m resolution) and KOMPSAT-3(0.7m resolution) provides VHR optical images and KOMPSAT-5 (1.0m resolution) provides VHR SAR images as well and those make it possible to look into the situation more accurately and promptly. KOMPSAT-3 has highest quantization with 14 bits per pixel, which contains more information than any other optical satellite. SI Imaging Services offers further VHR optical satellite data such as DubaiSat-2 and Deimos-2 which provide 1m resolution optical image. Shorter revisit time on a specific target can be achieved by combination of KOMPSAT-2,-3, -5, DubaiSat-2, and Deimos-2.

KOMPSAT constellation provides not only unique combination of optical and SAR but also unique imaging time combination, namely 06:00, 10:50, 13:30, and 18:00. Using this constellation, event related monitoring over a specific target can be achieved and change detection within 1 day can be performed.

Data continuity for both optical and SAR data is guaranteed by long-term government commitment followed by KOMPSAT-3A (Optical and IR) and KOMPSAT-6 (SAR). This unique combination can provide advanced data sets to analysts by enhancing collection capability and enabling integrated analysis for important assignments.

Country or International Organization

Republic of Korea

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