

## Earth observation using the GAIA-1 and GAIA-2 satellite platforms

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Earth observation from space provides a vantage point unlike any other. Global Navigation Satellite System (GNSS) and GPS satellites orbiting the planet are all emitting microwave signals. These signals can be exploited using the radio occultation (RO) technique which can be used to sense minute changes in the atmosphere. By studying these changes it is hoped that natural phenomenon such as earthquakes can be predicted before they occur. With that in mind we have a long term plan to launch a satellite with a GNSS-RO sensor called GAIA-1 to seek out the possibility of this potential prediction. Lessons learnt from GAIA-1 will be applied to it's next generation GAIA-2, where the primary payload will be a synthetic aperture radar (SAR) system. This presentation will introduce both satellites and their respective payloads, mission plan, and system architecture.

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