

Geostationary Observation of Atmospheric Chemistry and Lightning (GOAL)

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Abstract : In the present paper, we propose a small (150 kg dry mass) geostationary science satellite (GOAL: Geostationary Observation of Atmospheric Chemistry and Lightning), which enables us to observe earth atmosphere with far better temporal/spatial resolution. GOAL will be in 105E, above Singapore, to observe tropospheric NO₂, SO₂, O₃, HCHO, aerosols, lightning, etc in the region of South Asia - East Asia, southern Siberia - Australia. GOAL will carry 4 instruments, (1) imaging spectrograph, 270-450 nm/0.5 nm, 10 km IFOV, 60 minutes interval, (2) 10 band UV-Vis imager, 10 km IFOV, 10 minutes interval, (3) CO imager, 10 km IFOV, (4) Lightning Sensor, 10 km IFOV. GOAL will contribute integrated observation of atmosphere proposed by IGOSP/IGACO, to investigate 1) Air Quality, 2) Climate Radiative Forcing, 3) Oxidation Capacity of Atmosphere, and 4) O₃ Depletion/UV-B.