

International-Space-Station-Borne Submillimeter-Wave Limb-Emission Sounder

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Communications Research Laboratory (CRL) and National Space Development Agency (NASDA) are collaborating to develop a submillimeter-wave limb-emission sounder (SMILES) to be installed on the Japanese Experiment Module (JEM) of the International Space Station. The JEM/SMILES is a submillimeter-wave limb-sounding radiometer operating in the 640-GHz band for observing stratospheric minor constituents such as O₃, ClO, NO_x, HO_x, etc., which play important roles in the stratospheric ozone chemistry. This paper overviews the objectives of the JEM/SMILES mission and the outline of the design of the sounder currently being developed.