KAISTSAT-4 : A Progress Report

민경욱[1], 유광선[1], 이대희[1], 이진근[1], 오승한[1]
육인수[2], 선광일[2], 진호[2], 박장현[2], 남욱원[2], 한원용[2]
Jerry Edelstein[3], Eric Korpela[3]
[1]한국과학기술원, [2]한국천문연구원, [3]Univ. of California, Berkeley

KAISTSAT-4 is to be launched in August 2003 into an orbit at 800 km altitude with the intended mission shared between astrophysics and space physics. The primary objective of its astrophysics mission is to provide spectral sky survey data of hot Galactic plasmas in the far-ultraviolet wavelength range. Far-Ultraviolet Imaging Spectrograph (FIMS) is sensitive to emission line fluxes in 900 - 1175 Å and 1335 - 1750 Å. These wavebands include important C IV and O VI lines that will reveal the spatial distribution of the hot interstellar matter and thereby distinguish the plausible evolution scenario of hot Galactic gas from various existing models. The FIMS imaging spectra of the aurora will be compared with simultaneous in-situ plasma measurements of eV to MeV energies. The FIMS bandwidth includes the Lyman-Birge-Hopfield (LBH) emissions that will provide information on the total precipitated electron flux and average energy of electrons in an aurora. A 10 Hz FIMS spectral sampling rate will yield images of sub-kilometer spatial resolution which are sufficient to reveal new information on the dynamics of auroral breakups. We will describe the present technical status of the program as well as the policy for the usage of the data.