

Overview of Far-ultraviolet Imaging Spectrograph on KAISTSAT-4

K.W. Min^{1,2}, J. Edelstein³, W. Han⁴

J. Seon¹, E. Korpela³, U. W. Nam⁴

¹ Satellite Technology Research Center, KAIST

² Department of Physics, KAIST

³ Space Sciences Laboratory, Univ of California

⁴ Korea Astronomy Observatory

This paper presents an overview of scientific goals, design specifications of the instrument, and the data distribution policy of the anticipated KAISTSAT-4 mission. The main objective of the mission is to study the diffuse hot interstellar matter, for which Far-ultraviolet Imaging Spectrograph (FIMS) is currently under development. The instrument employs a dual bandpass (900-1175Å and 1335-1750Å), high resolution (1.5Å and 2.5Å, respectively) imaging spectrograph with a 8 deg X 5 arcmin field of view and 5 arcmin spatial resolution. FIMS is sensitive to emission line fluxes an order of magnitude fainter than any previous detection and allows us to determine the thermal and ionization equilibrium state in hot Galactic plasmas. Scientific goals of FIMS are 1) to map the spatial distribution of hot Galactic plasmas through a one-year sky survey, 2) to determine physical states of hot interstellar matter such as superbubbles and supernova remnants with pointed observations, and 3) to test the models presently available for the Galactic evolution. FIMS, together with other payloads for space physics research, will be flown on the KAISTSAT-4 as the spacecraft is scheduled for launch in 2002 into a low earth polar orbit.