

Test of Off-axis Parabolic Cylinder Mirror for FIMS : Inital Results

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Far-ultraviolet IMaging Spectrograph (FIMS) is a far ultraviolet diffuse imaging spectrometer which will be launched in 2002 as the main payload of KAISTSAT-4. We have designed the optics for observing diffuse emission sources by employing an off-axis parabolic cylinder mirror in front of a slit which guides lights to a diffraction grating. The reflective diffraction grating is an ellipse of rotation providing angular resolution. We describe our plan to measure the off-axis parabolic mirror and our initial experiments to establish the measurement technique. Initial result of knife edge scan method shows that the line spread function of the test substrate will reach our goal with a bit more grinding. To assist manufacture of the off-axis parabolic cylinder, a cylindrical wavefront generated using computer generated hologram(CGH) will be used during the polishing to check errors in surface profile using the Fizeau interferometer. Testing method using CGH will be discussed briefly.