Observations of Far-Ultraviolet Diffuse Emission from the Small Magellanic Cloud
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Far-ultraviolet diffuse radiation is primarily due to radiation from hot stars scattered from the interstellar dust grains.

Small magellanic Cloud (SMC) is a nearby extragalactic object where dust is known to be different.

Data Analysis: Used CalFUSE v3.2 and data analysis of Murthy & Sahnow (2004) and obtained 30 diffuse observations out of 220 Far-ultraviolet Spectroscopic Explorer (FUSE). We have also used Ultraviolet Imaging Telescope (UIT) data in order to estimate the FUV diffuse fraction.

Result & Discussion

We report the first observations of far-ultraviolet (FUV: 1000 – 1150 Å) diffuse radiation from the SMC.

The strength of FUV diffuse surface brightness in the SMC ranges from 2000 to $3 \times 10^5$ photons cm$^{-2}$ s$^{-1}$ sr$^{-1}$ Å$^{-1}$ at 1004 Å.

The contribution of diffuse emission to the total radiation field was found to be 34% - 44% at FUSE bands increasing up to 63% at 1615 Å.

The amount of light scattered increases towards the longer wavelengths showing that a large percent of the light at shorter wavelengths is absorbed by the dust.

There is a difference between the FUV diffuse fraction from the SMC and the Large Magellanic Cloud (LMC) with the SMC fraction being higher probable because the higher dust albedo.