HAO Colloquium Series

(Refreshments served)

Speaker: **Leon Ofman—CUA/NASA GSFC**

Time: **1:30 pm**

Date: **Wednesday, March 9, 2011**

Location: **CG-1, Rm 2126**

Title: **Modeling the acceleration and heating of the solar wind**

Abstract: The acceleration of the solar wind by MHD and kinetic waves has been proposed decades ago, and has been studied with mostly one dimensional models. However, the exact source of the waves and the physics of the wave energy and momentum deposition into the solar wind plasma is not known. Recent observations suggest that Alfvenic fluctuations are present in the chromosphere, corona, and the heliosphere. Spectroscopic remote sensing observations indicated that kinetic waves may play a role in heavy ion heating. Recent development of multi-dimensional computational models of wave driven solar wind provide a tool for investigation of wave heating processes in the MHD, the multi-ion-fluid, and the ion-kinetic regimes. The results of the three classes of models will be reviewed the significant new insight into the solar wind wave heating and acceleration processes achieved with these models will be presented.