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Physics Seminar

Date : **November 19, 2014 (Wednesday)**
Time : 11:00 noon – 12:00 noon
Place : **Room 300 (Seminar Room), Mukarram Hussain Khundkar Biggan Bhaban**

Topic : **Study Of Our Sun**

Speaker: **Sultana N. Nahar**
Department of Astronomy, The Ohio State University, Columbus, OH 43210, USA

Abstract:

Our sun is studied extensively as it is the standard for a typical star. However, the knowledge about the sun still holds large discrepancies. Recent determination of abundances of light elements, such as, carbon, nitrogen, oxygen etc, in the sun are up to 30-40% lower than the known standard values. Much of these discrepancies could be reduced if the fundamental quantity, opacity, of the solar plasma is known accurately. Propagating radiation in plasmas is absorbed and emitted by the constituent elements resulting in the opacity effect. Recent measured opacity at Sandia National Lab is 30-400% higher than predictions. New large scale calculations under the Iron Opacity Project reveals existence of extensive and dominant resonant features in the high energy photoionization. I will illustrate these and discuss on how inclusion of these should provide more accurate opacities and possibly narrow down the gap of difference between the observed and predicted opacities, and thus to agree to the later findings of elemental abundances in the sun.

Faculty members, you are cordially invited to the seminar,
and requested to encourage students, in and outside your class, to attend as well.

About the Speaker

Current Position:

Research Scientist, Department of Astronomy, The Ohio State University, Columbus, OH 43210, USA.

Education:

Ph.D. in Atomic Theory, Wayne State University, Detroit, Michigan, 1987.
Dissertation: ***Electron and positron scattering from atoms***

M.A., Wayne State University, Detroit, Michigan, 1982.
Thesis: ***Nematic Liquid Crystal and Optical Nonlinearity***

M.Sc. in Physics, University of Dhaka, 1979.
Thesis: ***Compton Scattering on Nucleons at Low Energies***

B.Sc. in Physics, University of Dhaka, 1977.

Notable recognitions:

Fellow of American Physical Society

Recipient of Gold Medal of Topical Society of Laser Sciences

John Wheatley Award of APS

Distinguished Alumni Award of Wayne State University

Monogram of Taibah University, Shield of Cairo University

Outstanding Research Mentor of the Ohio State University