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USING SMALL SOLAR OBSERVATORIES FOR MULTIDISCIPLINARY EDUCATION

Abstract

The Sun is the nearest and most important star in the sky. It effects every aspect in our life in our planets. The Sun is the only star that has an angular size much larger than a spot of light. In fact, even is a small Solarscope, many details can be seen on its face. The Sun can be used as a live laboratory for teaching many issues in all level of schools: physics, chemistry, climate, enviroment, astronomy and space. Also, The Sun is the only star that we can see only at day time – The time of the day that kids are in school. A ground based solar observatories can be used in order to monitor the Sun in a real time along with observations of the Sun from Solar-Observatories such as SDO.

Although the detailed studies of the Sun are made mainly from space, Small solar observatories can be used in order to encourage kids to enter the field of space, science and astronomy.

Today's technology enable us to observe the sun in a detail even with a low budget equipment. Observing the Sun in some wavelength such as Ha, CAII, Na and even a white-light, is now affordable to amateurs and schools.

The Sun is a live object and its face are changing all the time. Sunspots, Flares, Granulations, Prominences etc., can be seen in small Solarscopes and the data from the observations can be used in order to teach many aspects, from the Sun itself, through physics and chemistry, to changing climate and enviroment.

In the paper we will describe the Cosmos Solar-Observatory, and the main educational issues: The Sun, Light and radiation, Magnetism, Space weather, Climate and enviroment. In addition, we present the vision of a worldwide net of solar observatories for research and educational purpose.