



## **Space Weather Monitors Around the World: An Education Program of the IHY 2007 UNBSSI**

D. Scherrer (1), M. Rabello-Soares (2), **C. Morrow** (3), U. Inan (4), P. Scherrer (5)

(1) Stanford University [dscherrer@solar.stanford.edu/650-725-2333], (2) Stanford University [csoares@sun.stanford.edu/650-725-2333], (3)Space Science Institute [camorrow@colorado.edu], (4)Stanford University [inan@stanford.edu], (5) Stanford University [pscherrer@solar.stanford.edu/650-725-2333]

Earth's ionosphere reacts strongly to the intense x-ray and ultraviolet radiation released by the Sun during solar events and by lightning during thunderstorms. Students anywhere can directly monitor and track these sudden ionospheric disturbances (SIDs) by using a receiver to monitor the signal strength from distant VLF transmitters, and noting unusual changes as the waves bounce off the ionosphere. Stanford's Solar Center, EE Department, and local educators have partnered to develop inexpensive ionospheric disturbance monitors that students can install and use at their local schools around the world.

Two versions of the monitors exist – a low-cost version (~\$150) nicknamed "SID," designed to detect solar flares, and a more sensitive version (\$3100), "AWESOME," that provides both solar and night time research-quality data. Instruments come pre-assembled but students "buy in" to the project by building their own antenna, a simple structure costing little and taking a few hours to assemble. Data collection and analysis are handled by a local PC. Students benefit by being able to share and compare data with others around the world. Under NSF and NASA funding, both monitors are currently being placed in high schools and community colleges around the US.

Our space weather monitors have been chosen by the United Nations Basic Space Science Instrument Initiative (INBSSI) for deployment in 191 countries of the world during IHY 2007.