The Sun-Earth Connection Education Forum (SECEF) and the Radio JOVE Project

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Presentation to the WCCE Conference
July 27, 2009
What is SECEF?

Goal: Make connections within the Sun-Earth Connection (SEC) Science Community to focus attention on the active Sun and its effects on Earth within the Formal and Informal Education Communities as well as the general public.

- Develop partnerships with Scientists, Museums, Educators
- Provide rich expertise from the science community through the sharing of the interrelated story of science missions
- With the guidance of educators, develop programs that match audience needs to promote the regular use of SEC science
- Develop exciting programs that capture the interest of the general public via Museums and Science Centers
Programs

Sun-Earth Day
Spring Equinox
Sun-Earth Connection Education Forum
http://sunearthday.nasa.gov

Earth to Sky

Student Observation Network

Tracking a Solar Storm
How can we predict solar storms to protect satellites and astronauts?

Winter's Story
How can falling snow, snow packs, and ice cores help us decode climate and climate change?

Multifrequency Milky Way
Where are we in the Universe?

Challenger Center

Girl Scouts
The Radio JOVE Project is a hands-on educational activity teaching the scientific method through doing radio astronomy. Students can:

- Build a radio telescope from an inexpensive kit, make observations of Jupiter or the Sun, and contribute to a central pool of data used for collaborative research (kits are $190 + shipping)

- Use remote radio telescopes through the web to observe and learn radio astronomy

Detailed information available at: http://radiojove.gsfc.nasa.gov
RADIO JOVE CONSTRUCTION
RADIO SKYPIPE SOFTWARE

http://radiosky.com
SIMULTANEOUS OBSERVATIONS

Sun

Solar Burst on 3/26/02 Detected by Separate Radio JOVE Telescopes

- John Samoukas / Sula, MT
- Tom Ashcraft / Lamy, NM
- Thomas Schopp / Saginaw, MI
- Jim Brown / Orangeburg, SC
- Dick Flagg (WCCRO) / Honolulu, HI
Radio JOVE Status

• Startup 11 years ago through NASA DDF funding
• Nearly 1200 kits distributed to almost all states and 64 countries
• Several online professional telescope facilities
• Periodic coordinated observing
• Many workshops and presentations for teachers
• Now self-sustaining
COUNTRIES WITH REGISTERED OBSERVERS

Argentina 3
Australia 28
Austria 1
Bahrain 2
Basque Country 1
Belgium 2
Brazil 13
Brunei 1
Bulgaria 1
Canada 20
Chile 3
China 3
Colombia 11
Croatia 1
Cyprus 1
Czechoslovakia 2
Denmark 1
Dominican Republic 1
Finland 1
France 14
Germany 13
Greece 1
Guyana 1
Honduras 1
Hungary 1
India 52
Indonesia 2
Iran 9
Iraq 1
Ireland 5
Israel 3
Italy 18
Japan 1
Korea 1
Malaysia 6
Malta 1
Mexico 10
Netherlands 3
New Zealand 7
Nigeria 6
Pakistan 2
Paraguay 1
Peru 1
Philippines 2
Portugal 2
Romania 1
Scotland 1
Singapore 6
Slovenia 1
South Africa 3
Spain 14
Sri Lanka 2
Sweden 1
Switzerland 2
Taiwan 3
Tanzania 1
Thailand 1
Trinidad and Tobago 1
Turkey 2
United Arab Emirates 1
United Kingdom 30
Venezuela 4
Virgin Islands 2
West Indies 1
BACKGROUND
The Sun-Earth Connection Education Forum (SECEF) and the Radio JOVE project are two examples of NASA-supported programs that provide hands-on educational opportunities for students to learn science by inquiry-based interactive learning. In SECEF there is a project called Space Weather Action Center where student use actual NASA satellite data to study the Sun and the near-Earth space environment to predict solar storms and their effects on Earth.

For Radio JOVE the students build a radio telescope from a kit and use it to monitor the Sun or other radio sources to know when radio storms have occurred. Through these projects students follow the scientific process to reach conclusions that are then "published" or communicated to others.