Communications Continue To Be Bothered by Solar Flares

Boulder, Colo. (UPI) – On Feb. 23, 1956, the sun shot toward earth the heaviest concentration of radiation on record.

First, at the speed of light, came a barrage of ultra-violet and x-rays. Radio reception the world over was jammed for more than an hour.

A little later a cloud of cosmic matter – protons and electrons – totally blacked out communications in the Arctic and Antarctic latitudes.

And there was more trouble. Telephone conservations were garbled. Power circuits were shorted out.

Pipe Lines Protected

Long distance pipe lines might also have picked up an extra voltage which could have caused corrosion, and ultimately, expensive leaks and breaks. But such pipe lines are now protected against the effects of solar flare-ups, with a neutralizing system somewhat like the degausing device used on ships during World War II to keep them from attracting magnetic mines.

But very little can be done to protect communications. There is no way yet to predict just when solar flares will take place, and no way to avoid most of their consequences.

The cost and inconvenience to the communications industry is enormous. In the case of ships and planes, even a temporary loss of radio contact can sometimes mean danger.

Can't Interpret Data

The high altitude observatory at the University of Colorado, one of the few which concentrates on solar astronomy, is piecing together basic facts about solar flares. Walter Orr Roberts, the director, and flare specialist Grant Athay admit, however, they can't yet interpret all the data about the sun which modern instruments provide.

"We're in danger of having our engineering outstrip our basic scientific comprehension," Roberts said. "Our greatest need is for more trained solar astronomers to direct research programs, and to interpret data."

This much is fairly well established about solar flares:

–Flares often occur near sun spots, which are "cool" areas on the sun's superhot surface. But the relationship between sun spots and sun flares is not understood.

Fairly Frequent

–Flares rise abruptly from the sun, and usually last 30 to 60 minutes. They have been fairly frequent during the past three years. But while solar astronomers can determine that a flare is likely, they can't predict when it will occur. A severe flare this year, on May 13, interrupted radio communications badly in the temperate and equatorial latitudes for about 45 minutes, and then caused a communications blackout around the poles.

–Solar flares emit two clouds of trouble. First there is the fast-as-light stream of ultra-violet and x-ray photons. Then, a slower-moving broadside of protons and electrons. The photons radiate in all directions, and always will hit the earth about eight minutes after a flare.

In Narrow Beam

–The cloud of cosmic matter leaves the sun anywhere from 500 to 100,000 miles per second, in a relatively narrow beam which may miss the earth. This cloud of electrons and protons causes the polar blackouts associated with severe flares. The big one in 1956 lasted two days.

–Long distance radio depends on the fact that shortwave transmissions normally bounce off the ionosphere. The ionosphere begins about 50 miles above the earth, and contains free electrons. But the front-running streams of photons from a solar flare play hob with the ionosphere's electron balance. In effect, the ionosphere drops down six or seven miles closer to earth, and becomes absorbent rather than reflectant. Radio short waves just don't bounce back to earth.

–When the cosmic cloud arrives, anywhere from an hour to two days later, vast numbers of electrons and protons are drawn into the earth's magnetic field and are concentrated at the polar caps. Communications in the polar zones can be washed out for long periods – a matter of more seriousness now that commercial aircraft are using polar routes.

UN To Hear Cuban Charge on Monday

United Nations, N.Y. – (UPI) – The United Nations has announced that the Security Council will meet next Monday to consider Cuba's charge of "aggression" by the United States.

Cuban Foreign Minister Raul Roa held a series of meetings during the day with Communist, Latin American and African delegates in an effort to whip up support for Premier Fidel Castro in his diplomatic battle with the United States.

Well-Scrubbed Cat Bit Master's Hand

Boston – A housewife living in a suburb near here put a load of sheets in the clothes dryer and turned on the machine.

Suddenly, there was a strange, bumping noise. The housewife called her husband who opened the dryer. Out staggered the family tomcat.

The cat's eyes were glassy, his tongue was hanging out and his fur was standing on end. He could hardly catch his breath.

The husband tried to apply artificial respiration. The cat retaliated by biting him. A family doctor was called in to treat both. He said both would recover.

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U. S. Plane Wreck Found in Ecuador

Bogota, Colombia – (UPI) – The American Embassy announced Tuesday that the wreckage of the U.S. military transport plane lost Monday night between Bogota and Quito, Ecuador, was found near Pichincha Volcano north of the Ecuadorian capital.

First reports said that there were no survivors.

The embassy said that the C47 belonging to the U.S. Air Mission in Colombia was en route to Quito from Bogota with between 15 and 17 persons aboard including the crew and that all but six persons aboard were Americans. Their names were being withheld.

Lots of Churches, But Few Churchgoers

Berea, Ky. – A survey by Berea college here indicates that in proportion to population, the Southern Appalachian mountain region – a seven-state area between Pennsylvania and Alabama – has more churches and fewer church members than any other region in the United States.

Court Records

MUNICIPAL COURT

Ira L. Pollard, disobeyed traffic signal, $11.
William Joseph Sweeters, disobeyed traffic signal, $11.
Wayne Frank Buchanan, disobeyed traffic sign, $5.
Earl Martin Gwynn, excessive noise, $5.
Walter Charles Schmidt, improper left turn, $6.
Eugene Howard Vincent, failure to stop upon entering public highway, $6.
Joe Marvin Couch, no tail lights, $6, no operator's license in possession, $11.
Alvin Glen Edwards, failure to stop upon entering public street, $6.
Carl Jay Warm, failed to yield right of way, $11.
Dianne Jean Cummings, inadequate muffler, $6.
Charles Clark Rees, excessive noise, $6.
George William Detrich Jr., displayed expired plates, $6.
Stanley William Hobbs, excessive noise, $6.
George Peter Rasmussen, violation of basic rule, $11.
Fred Aaron Reed Jr., expired driver's license, $5.
Grady Thompson Rabjohn, disobeyed traffic signal, $10.
Noah Lafayette Couch, violation of basic rule, $10.
William Orr Hunt, disobeyed traffic signal, $11.
Gary Rea Rupert, 20, of 314 marist, racing with another vehicle, $2[illegible].
Mansel Wiley Milam, disobeyed traffic signal, $11.
Daniel A. Parker, failure to yield right of way, accident, $26.
Gatewood Givens Smith, improper left turn, $6.
James Leonard Stenerson, allowing unlicensed person to operate vehicle, $11.

ASHLAND MUNICIPAL

Gary Ray Hamilton, failure to heed stop sign, $5.
Melvin Leland Anhorn, red light, $5.
Tom David Lawrence, basic rule, $5.
Randall Eugene Stothers, basic rule, $20.
Richard Ingwald Romesmo, expired registration, $5.
Robert Merideth Julier, expired registration, $5.
Aaron Marston Clark, expired registration, $5.

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