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Flying and Radiation Risk
Physicist Calls for Airline Industry to Educate Workers about Radiation Levels

September 1, 2005 — At the high altitudes and latitudes commercial airlines fly, crews are subjected to higher-than-normal radiation levels from the sun and cosmic rays. Physicist Robert Barish believes airline crew members are exposing themselves to more radiation than almost any other occupation and is calling for the airline industry to better educate workers about radiation.

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are unaware of this issue."

Robert Barish, physicist and author of "The Invisible Passenger: Radiation Risks For People Who Fly," says, "The sun is really a big thermo-nuclear device." Barish believes airline crewmembers are exposing themselves to more radiation than almost any other occupation. He says, "People who work in the nuclear power industry on an average basis are getting 1.6. There are people who fly in airplanes who are getting 2 or 3 or 4 milliSieverts per year. So they are truly radiation workers."

Everyone is exposed to some radiation every day. The sun constantly emits charged particles that intensify during solar flares. Normally, the earth's atmosphere absorbs much of this, but at the high altitudes and latitudes airliners fly, crews are subjected to higher radiation levels and possibly are at higher risk for developing cancer. In Europe, it is mandatory flight crews be educated about cosmic radiation, but that's not the case in the United States.

The risk is not the same for everyone. Casual fliers have nothing to worry about. Only people who fly at least once or twice a week.

BACKGROUND: Airline pilots and flight crews may be exposed to higher radiation levels and therefore greater risk of developing cancer.

WHAT ARE SOLAR FLARES: Deep inside, the sun produces energy by joining atoms of hydrogen, and these nuclear reactions produce the heat and light from the sun. The earth's magnetic field protects us from most of the sun's radiation, and so does our atmosphere. The sun's surface also has magnetic fields, stronger in some places than others, and occasionally the magnetic fields can become twisted. A solar flare is a tremendous explosion on the sun that occurs when energy stored in a "twisted" magnetic field



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