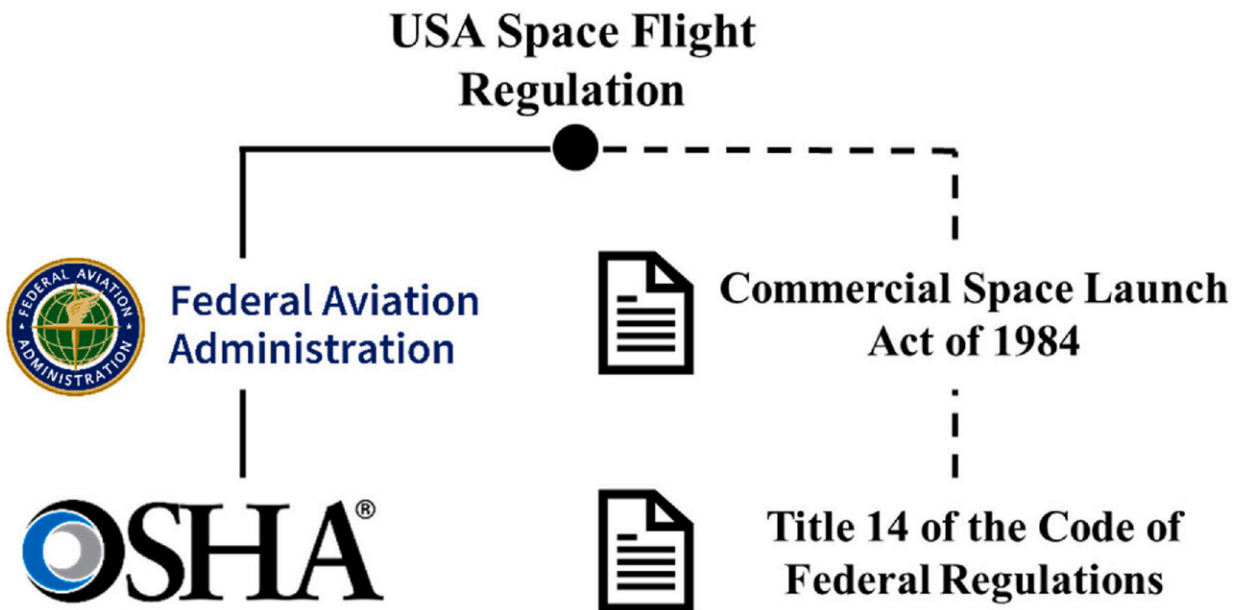


Space tourists need better warnings about cosmic radiation exposure, say experts

March 5 2024



USA Space Flight Regulation, showing relevant government agencies and legislation for flight operations. Credit: *Space Policy* (2024). DOI: 10.1016/j.spacepol.2024.101613

Space weather experts at the University of Surrey are urging regulators and space tourism innovators to work together to protect their passengers and crews from the risks of space weather radiation exposure.

The Earth's atmosphere and [magnetic field](#) protect people on the ground

from exposure to unpredictable surges of electrically charged particles coming from the sun. However, there can be dramatic increases in potential radiation exposure at higher altitudes, such as those envisaged for space tourist flights.

Space weather cannot yet be predicted and can lead to [health risks](#) such as damage to DNA, and it could lead to cancer. Despite this, space tourists currently receive little information and few warnings.

Chris Rees, lead author of a new paper on radiation risks to space tourism and a postgraduate researcher at Surrey Space Center, said, "Although space tourism is very niche, it will quickly grow as an industry. With increased flights, more people could be impacted by cosmic radiation exposure, especially during rapid changes in space weather. We're recommending how regulators and industry should work together to keep people safe without unnecessarily holding back innovation."

The paper is [published in *Space Policy*](#).

JR Catchpole, co-author of the paper and a space law expert at Foot Anstey LLP, said, "International action is needed by regulators, but meanwhile, the early movers in the sector, like Virgin Galactic and Blue Origin, need to watch themselves and their passengers. The principles of informed consent mean stronger warnings and clearer information may be required."

The paper makes a series of recommendations:

1. Regulatory bodies should work closely with industry to ensure regulations are practical, effective and reflect technological advances.
2. International standards are needed to ensure consistent

regulations.

3. Safety is crucial, which means clear information for space tourists and more monitoring of cosmic radiation during short space flights.
4. Regulation must encourage innovation within this young industry, not stifle it.

More information: C.T. Rees et al, A discussion on policies and regulations governing the risks associated with radiation exposure for space tourism flight participants, *Space Policy* (2024). [DOI: 10.1016/j.spacepol.2024.101613](https://doi.org/10.1016/j.spacepol.2024.101613)

Provided by University of Surrey

Citation: Space tourists need better warnings about cosmic radiation exposure, say experts (2024, March 5) retrieved 28 April 2024 from <https://phys.org/news/2024-03-space-tourists-cosmic-exposure-experts.html>

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