

I am writing to you to provide comments on the proposed rule-making, RM-9740. This proceeding deals with unwanted emissions from satellites and, if modified carelessly, could significantly damage the ability of radio astronomers and earth scientists to successfully produce useful scientific results.

As you know, unwanted emissions (spurious emissions, harmonics, intermod products) from satellites now pose the greatest threat to radio astronomy and passive remote sensing.

Radio observations represent a unique window on the universe, providing scientific data unavailable from telescopes operating at visible-light wavelengths or other parts of the electromagnetic spectrum. Of the ten astronomers who have won the Nobel Prize in Physics, six of them used radio telescopes for their work. The future advancement of astronomy and of physics is dependent upon the preservation of the radio spectrum for observation of the universe with radio telescopes. Relaxing regulations on spurious emissions from satellites will potentially harm these observations.

Because of the sensitivity of radio telescopes, they have been, much like the canary in the mine, the first facilities to suffer from unwanted satellite emissions. However, other services also have begun to be affected, and the problem will only grow as the use of radio spectrum increases.

Radio astronomers are not asking that the spectrum not be used; they simply ask that it be used in a responsible manner, minimizing unwanted emissions that will, in fact, become a problem in the future for other services as well. The Radio Communication Sector of the International Telecommunications Union has provided excellent guidelines for regulating emissions in radio astronomy bands.

Specifically, in bands allocated to radio astronomy, the aggregate unwanted emissions from satellite (or any other) transmitters should not exceed the detrimental interference levels listed in Recommendation ITU-R RA.769. I hope that the FCC will follow this regulation as their guideline in any modification to section 25.202(f) of the Commission's Rules. Radio astronomy provides us with a window to the universe that can be easily destroyed. I hope the FCC will do its part to keep that window crystal clear and usable so that radio astronomers can continue to provide the exciting and important results that they have dazzled us with over the last 50 years.

Sincerely,
Megan Donahue