

Subject: RM-9740

Dear Sir,

I am a radio astronomer at the University of Washington, Seattle, as well as President of Commission 50 of the Intl. Astronomical Union, which deals with issues of light pollution and manmade radio interference to radio astronomical observations. I therefore bring both a domestic and an international perspective to these issues. The US has a chance to be a leader in the issue of respecting to the fullest radio astronomy's ability to probe at the boundaries of our knowledge of the Universe.

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.

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 urge that the FCC 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 urge the FCC to do its part to keep that window crystal clear and usable so that radio astronomers can continue to provide their exciting

and important results.