

UNAVCO

University
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October 24, 2000

Magalie Roman Salas
Office of the Secretary
Federal Communications Commission
445 12th Street S.W.
TW-A235
Washington DC 20554

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FCC MAIL ROOM

Re: NPRM FCC 00-163 Concerning UWB (ET Docket 98-153)

To the Commission:

I am the scientific director the University Navstar Consortium (UNAVCO) which consists of about 100 US universities that work on scientific problems using GPS. Much of this scientific work is focused on understanding how the Earth moves before, during, and after earthquakes. In these applications we use GPS to determine the positions of points attached to the Earth with millimeter level accuracy. Other members of our consortium use GPS to study the atmosphere and yet others use GPS to measure the positions of moving platforms, such as flying aircraft, that contain instrumentation to measure such quantities as atmospheric composition, magnetic and gravity fields, and topography. All of these applications of GPS require continuous measurements of the GPS signals with the highest possible accuracy.

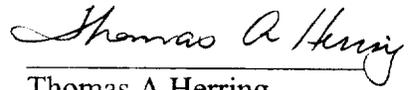
We are greatly concerned about the possible interference and disruption of signals that could result from Ultra Wide Band (UWB) transmissions. We feel that there should be comprehensive testing of the effects of UWB transmissions, especially when there are many transmitters in an area, on GPS signal tracking and acquisition. This test program should be approached in such a way that the fundamental physics of these transmissions and their effects can be understood. Instrumentation capable of measuring the characteristics of the signals also seems to be needed.

Our community has much investigated in GPS and its applications to better understanding earthquake risk in areas such as Los Angeles. We have a large network of GPS receivers deployed in metropolitan Los Angeles which is monitoring the accumulation of deformation related to the occurrences of earthquakes here (for example, the 1994 Northridge earthquake). The meteorological studies using GPS search to monitor changes in the atmosphere that occur before severe weather changes. These applications require robust continuous tracking of GPS signals during poor tracking conditions due to the turbulence in the atmosphere. With so many different uses of GPS being developed both in our community and other direct safety-of-life applications, the

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possible disruption of the use of GPS should be considered very carefully and methodically

Sincerely

A handwritten signature in cursive script that reads "Thomas A. Herring".

Thomas A Herring
Professor Geophysics, MIT
Scientific Director, UNAVCO.