

Remote Sensing using Signals of Opportunity

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Today, there are more than eight thousand satellites in space. Therefore, Radio Frequency (RF) signals broadcast from satellites can be accessed from almost every point on the earth. There will be number of satellites available at most points on earth with different frequency bands. These satellite signals can be used for remote sensing, therefore software that visualizes footprints of satellites and shows characteristics of every satellite available at any point would be useful in determining which signals are available for reflectometry, method where direct satellite signals and reflected satellite signals are received and compared for analysis of certain area. There is a need for a tool which can tell what satellites are available in a given area. International Telecommunication Union (ITU) has database with all the information about satellites which they store in DVDs and partially can be accessed online. Using the ITU database it is possible to create a program with C++ and MATLAB which perform these functions. DVD contains thousands of contours of satellite footprints stored as a binary; therefore, to extract them for formatting the data from that database into a graphical plot needs to be done through C++. In summary, software that can display the information of satellites at any given point is needed in remote sensing.