Experimental detection of mobile satellite transmissions with cyclostationarity features

Abstract:
Cognitive Radios is emerging in research laboratories as a promising wireless paradigm, which will integrate benefits of software defined radio with the capability of awareness of the spectrum environment. To reach this goal many issues remain still open and many functions must still be implemented in an efficient way. One of the main functions is spectrum sensing, which is the capability to sense the spectral environment over a wide frequency band and identify the presence of other wireless communications services in the spectrum. Spectrum sensing can be used for a variety of applications both in the commercial domain and public safety domain. The paper investigates three different digital signal processing techniques for spectrum sensing: power sensing, cyclostationary sensing and Strip Spectral Correlation Algorithm (SSCA) and apply these techniques to a mobile satellite communication signal. Experimental results on real signals are presented and compared.

URI:

Authors:
DIMC Franc
BALDINI Gianmarco
SITHAMPARANATHAN Kandeepan

Publication Year:
2015

Type:
Articles in Journals

Publisher:
WILEY-BLACKWELL

ISSN:
1542-0973

DOI:
10.1002/sat.1081 [2]

Citation:
INTERNATIONAL JOURNAL OF SATELLITE COMMUNICATIONS AND NETWORKING p. 163–183 no. 2 vol. 33

Source URL:
Links