SPECTRAL ESTIMATION OF RADIO ASTRONOMICAL SOURCES CORRUPTED BY DIGITAL MODULATED RADIO FREQUENCY INTERFERENCES (ThuPmOR10)

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Abstract :

In radio astronomy, the radio spectrum is used to detect weak emission from celestial sources. However, more and more observations are polluted by man−made radio frequency interferences (RFI). To some extent, the final power spectral estimation can be preserved by processing the polluted channels in real time. In the case of digital modulated RFI, we propose to use their cyclostationary properties with a view to detecting/blanking or estimating/cancelling them. An example of detection/blanking on real data and a cancellation algorithm are discussed.

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