IV. CONCLUSIONS

We propose two Matched Mode Processors to localise sources in shallow water environments using a single hydrophone. We show that the Coherent Processor allows a more accurate localisation as well as a reduction of the side lodes. This processor has now to be studied in detail and applied to real data to prove its efficiency.

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NORMALITY TESTS ANALYSIS OF RADIOMETRIC SIGNALS FOR RADIO FREQUENCY INTERFERENCE DETECTION

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Radio-frequency interference (RFI) present in microwave radiometry measurements leads to erroneous radiometric results. RFI sources include spurious signals and harmonics from lower frequency bands, spread-spectrum signals overlapping the "protected" band of operation, or out-of-band emissions not properly rejected by the pre-detection filters due to its finite rejection. RFI sources' density increases in populated areas, as shown in [1].

RFI addition to the radiometric signal modifies the detected power and the estimated antenna temperature from which the geophysical parameters will be retrieved. In recent years, techniques to detect the presence of RFI in radiometric measurements have been developed. They include time- and/or frequency domain analyses [2], or statistical analysis of the received signal which, in the absence of RFI, must be a zero-mean Gaussian process. The statistical analysis of the received signal includes the calculation of the Kurtosis parameter to compare it with the Kurtosis of a Gaussian signal [3], and the Shapiro-Wilk normality test to the received signal [4]. Nevertheless, statistical analysis of the received signal could be more extensive, as in statistical literature several normality tests have been developed.

The motivation of this paper is the study of a set of normality tests applied to the received signal as the radiometric signal presents a Gaussian nature; observing the best normality test for different RFI components. A description of the normality tests and the RFI detection results for different kinds of RFI are presented.

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