

Method and device for reconstructing a useful signal from a noisy acquired signal**Abstract**

The invention relates to a method and a device for reconstructing a useful signal from an acquired signal made up of a plurality of samples representing physical quantities measured, the acquired signal including said useful signal made noisy by a noise, implemented by a processor of a programmable device. The method includes decomposing (32) the acquired signal on a predetermined wavelet decomposition base, according to a given number of decomposition levels, and obtaining corresponding wavelet coefficients representing said acquired signal; estimating (42, 44) a value representing the standard deviation of said noise from at least one portion of the wavelet coefficients; and implementing (34) an iterative method for reconstructing parsimonious signals on the acquired signal, with a dictionary built from the wavelet decomposition base, said iterative method having an associated stop criterion, the stop criterion being calculated (50) as a function of the value representing the estimated noise.

Fig. 1