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This paper presents an algorithm for the detection of a complex envelope of power grid signals. The algorithm is based on a Hilbert transform. It was prepared for an analysis of low-frequency disturbances, but can also be used as a compex envelope source for other applications. An implementation of the algorithm in a digital signal processor was made to prove an ability of a real-time operation. Analyses with various numerical representations and input signal quantisation were done. Execution times on a DSP were measured. Tests proved that the presented algorithm is able to analyse power grid signals in real-time with satisfying performance.

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