Tomogram and data analysis applied on reflectometry signals

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In this talk, I will present a signal processing technique, called tomogram [1], aimed at extracting the time-frequency content of a signal, which is able to separate multi-reflected signals from the main reflection and to identify the different components of a given signal. This technique will be applied on reflectometry data obtained experimentally in tokamak plasmas. I will show that the method is able to separate the various components of the signal and to estimate the phase and its derivative, which are the relevant quantities in the analysis of reflectometry signals. These results will be compared to those obtained by windowed Fourier Transform.

[1] V.I. Man'ko, R. Vilela Mendes, *Non-commutative time-frequency tomography*, Physics Letters A 263(1999) 53-61,