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**Title of the talk : FOT Frequency extraction from the distribution of a signal**

The usual notion of Bohr (uniform) almost periodicity does not fit to a signal which is not continuous. To turn around this problem, in this talk we first recall different kinds of almost-periodicity: Bohr, Stepanov, Weyl and Besicovitch points of view, and their relationships. We state sufficient conditions for the indicator  $\mathbb{I}_{\{z(t)\leq\xi\}}$  of a real-valued signal  $z(t)$  to be almost periodic in time. Next some results on the Fourier analysis of the distribution of a signal using FOT approach are presented. This allows us to improve Gardner fundamental theorem on sine-wave extraction (see Gardner 1987; Napolitano 2020). Then we tackle the problem of almost periodic extraction from a signal, considering almost periodic additive component and almost periodic distribution component. Finally we establish the relationship between the frequency extraction and the periodic extraction by synchronized averages. We illustrate our purpose with some simulations.