



Seminar : Gabor frames on local fields of positive characteristic  
Title

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Abstract : In 1946, Gabor first proposed the study of systems  $\{e^{2\pi i m b} g(\cdot - na) : m, n \in \mathbb{Z}\}$  with  $ab=1$ . These systems are potential tools for the decomposition and handling of signals, like speech and music, that have well-defined frequencies over short intervals that change with time. The technique of short-time (windowed) Fourier transform introduced by Gabor became a paradigm for the spectral analysis associated with time-frequency methods and led eventually to wavelet theory. Our work generalizes the theory of Gabor frames to local fields of positive characteristic. First we have given equivalent conditions for WH-frame, and conditions on generating function of WH-frame. Then Zak transform on local field of positive characteristic is defined. Further, characterizations of minimal, Bessel and frame sequences are given in terms of Zak transform. Amalgam spaces play important roles in time-frequency analysis and sampling theory. At the end some results related to Amalgam spaces for local field of positive characteristic are given.