Seminar za funkcionalnu analizu

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Weak frames in Hilbert C^*-modules and Gabor systems
(Supported by Croatian Science Foundation under the project IP-2016-06-1046)

Abstract

In this series of seminar talks we will introduce a concept of weak Bessel aequences and weak frames for Hilbert C^*-modules over von Neumann algebras. An overview of the main results will be presented and it will be demonstrated that such Bessel sequences, resp. frames possess (with the respect to certain weak topology) key properties of standard Bessel sequences and standard frames. These results have application in Gabor analysis. It turns out that each Gabor frame or, more generally, each Gabor Bessel sequence can be regarded as a weak frame or weak Bessel sequence in certain Hilbert C^*-module.

In the first talk we will present an overview of selected results on Gabor systems as a motivation for our study of weak systems in Hilbert C^*-modules.