Operator Days, Zagreb, Jan. 31 - Feb. 1, 2019

When is a finite sum of box operators on a JB*-triple a = hermitian projection?

Dijana Ilišević, University of Zagreb, Croatia

Abstract. We characterize the hermitian projections which are = finite sums of box operators on Cartan factors of type I, II and III, = that is, on the (matrix and) operator spaces $B(\mathcal{H},\mathcal{K})$ of bounded = linear operators from a complex Hilbert space $\mathcal{H}$ to a complex Hilbert = space $\mathcal{K}$, $A(\mathcal{H})$ of skew-symmetric operators on $\mathcal{H}$ and = $S(\mathcal{H})$ of symmetric operators on $\mathcal{H}$.

This is joint work with Lina Oliveira.

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The minimal redundancy property of frames and signal reconstruction

Ljiljana Arambašić, University of Zagreb, Croatia

Abstract. Let $(x_n)_n$ be a frame for a Hilbert space H. We say that a finite set of indices E satisfies the minimal redundancy condition for $(x_n)_n$ if $\overline{\text{span}}\,\{x_n : n \in E^c\} = H$. Assuming E has the minimal redundancy condition we present a method for construction of a dual frame for $(x_n)_{n\in E^c}$ starting from a dual frame for $(x_n)_n$. The talk is based on joint works with Damir Bakić and Diana Stoeva. This research was supported by the Croatian Science Foundation under the project IP-2016-06-1046.

The CB-norm approximation of generalized skew derivations by elementary operators

Ilja Gogić, University of Zagreb, Croatia

Abstract. If A is a prime C*-algebra, we determine the structure of generalized skew-derivations of A that belong to the cb-norm closure of elementary operators on A. We also discuss about certain obstructions that arise when trying to extend this result to the more general classes of C^*-algebras. This work has been fully supported by the Croatian Science Foundation under the project IP-2016-06-1046.

Isometries of Grassmann spaces

Peter Šemrl, University of Ljubljana

Abstract. Let H be a (real or complex) Hilbert space and n a positive integer. We denote by $P_n(H)$ the set of all rank n projections on H. In the case when H is an infinite-dimensional separable Hilbert space, the symbol $P_\infty(H)$ stands for the set of all projections whose images and kernels are both infinite-dimensional. By $\|\cdot\|$ we denote the usual operator norm on $B(H)$, the set of all bounded linear operators on H. The distance on the set of all projections induced by the operator norm is usually called the gap metric. The structural results for surjective isometries of $P_n(H)$, $n = 1, 2, 3, \ldots$, and $P_\infty(H)$ with respect to the gap metric will be presented.