

VCU Discrete Mathematics Seminar

An Introduction to Frames

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12:30–1:20
4145 Harris Hall

One way to generate a polyhedral set is to combine a given finite set of points using constrained linear operations. With this definition, a polyhedral set can be anything from the empty set or a single point, through to a convex hull, and up to the entire space. The “frame” of a polyhedral set is the smallest subset of the points that is required to generate it (the rest are, therefore, “redundant”).

The basis of a vector space is an example of a frame. Frames are the generalization of bases to the case of any polyhedral set. After presenting the background for frames, we will discuss some recent algorithms for finding them especially in the case of polyhedral sets containing extreme elements (e.g. polyhedrons such as cones and polytopes).



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