Semi-FTvN systems

M. Seetharama Gowda Department of Mathematics and Statistics University of Maryland Baltimore County Baltimore, Maryland, USA gowda@umbc.edu

Abstract

A semi-FTvN system is a triple (V, W, λ) , where V and W are real inner product spaces and $\lambda : V \to W$ is a map satisfying the conditions $||\lambda(x)|| = ||x||$ and $\langle x, y \rangle \leq \langle \lambda(x), \lambda(y) \rangle$ for all $x, y \in V$. Examples of semi-FTvN systems include Fan-Theobald-von Neumann systems (such as Euclidean Jordan algebras and normal decomposition systems) and systems induced by complete hyperbolic polynomials. In the broad framework of semi-FTvN systems, one can study automorphisms, majorization, and commutativity (principles). In this introductory talk, we describe some examples, concepts, and results.