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ABSTRACT

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CP-Semigroups and Dilations, Subproduct Systems and Superproduct Systems: The Multi-Parameter Case and Beyond

Abstract: In this talk I attempt to manage the challenge to have a quick look at the basics of our joint paper with Orr Shalit with the same title [1] and to outline some of the major insights. Especially, CP-semigroups come along with *subproduct systems*; their dilations come along with *superproduct systems*; and only when they meet in a *product system* the situation gets really nice.

In a sense, the structures that occur are "self-defining": If they had not yet been there, then the problem suggests how to define them. Therefore, we hope that much can be understood even if you have never seen Hilbert modules and correspondences (Hilbert bimodules) before; they simply occur.

[1] O.M. Shalit and M. Skeide. CP-Semigroups and dilations, subproduct systems and superproduct systems: The multi-parameter case and beyond. Preprint, arXiv: 2003.05166v3, 2020 (243pp). To appear in Dissertationes Math.