GRADUATE SEMINAR

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Pure Matrix States on Operator System Tensor Products

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3:30 p.m.
CW307.20

Abstract: A theorem of Namioka and Phelps states that for order unit spaces, E_1 and E_2, and an order unit tensor product $\otimes_\sigma$, the scalar state space $\mathcal{S}_1(E_1)$ is simplex-like if and only if any $s \in \mathcal{S}_1(E_1 \otimes_\sigma E_2)$ can be expressed as $s = s_1 \cdot s_2$ for $s_1 \in \mathcal{S}_1(E_1)$ and $s_2 \in \mathcal{S}_1(E_2)$. This result can be used to show that for any order unit tensor products $\otimes_\sigma, \otimes_\tau$ that $S_1(E_1 \otimes_\sigma E_2) = S_1(E_1 \otimes_\tau E_2)$ if and only if $S_1(E_1)$ is simplex-like. My talk will demonstrate a partial analogue of these theorems in the case where E_1 and E_2 are operator systems and when the scalar state spaces are replaced with matrix state spaces.

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Mathematics and Statistics