GRADUATE SEMINAR

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Representation of Spin Relations for Unitary Pairs

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3 pm
University of Regina
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Abstract:

For a fixed prime p and p-th root of unity ζ, a pair of unitary operators u and v represent the spin relations if (i) $u^p = v^p = 1$ (the identity) and (ii) if $uv = \zeta vu$. In this lecture I will show that the C*-algebra generated by any such spin pair is isomorphic to the algebra of $p \times p$ complex matrices. Moreover, I will explain that any two representations of the spin relations are completely order isomorphic, regardless of the dimensions of the Hilbert spaces upon which the unitary operators act. Lastly, I will formulate spin relations for m unitary operators and show that for $m = 3$ not all spin relations are equivalent.

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Mathematics and Statistics