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*The structure of an isometric tuple*

The definition of an isometric tuple is a natural higher-dimensional generalization of the definition of an isometry. An  $n$ -tuple of operators  $V = (V_1, \dots, V_n)$  acting on a Hilbert space is said to be isometric if the row operator  $[V_1, \dots, V_n]$  is an isometry. The classical Lebesgue-Wold decomposition of an isometry tells us that an isometry can be written as the direct sum of a unilateral shift, an absolutely continuous unitary and a singular unitary. In this talk, we will discuss a higher-dimensional generalization of this decomposition for an isometric tuple. As in the classical case, this decomposition determines the weakly closed algebra and the von Neumann algebra generated by the tuple.