

Ordered Representations of Normal and Super-Differential Operators in Quaternion and Octonion Hilbert Spaces

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Abstract. The central subjects of this article are the spectral theory of normal and of self-adjoint operators in spaces over quaternions and octonions, with emphasis on the super-differential operators over the quaternion skew field and over the octonion algebra. We analyse their spectral measures and ordered representations. Some structural theorems are proved.

Keywords. Spectral theory, octonion Hilbert space, super-differential operators.

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