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Description of Derivations on Locally Measurable Operator Algebras of Type I*

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Abstract: Given a type I von Neumann algebra M let $LS(M)$ be the algebra of all locally measurable operators affiliated with M. We give a complete description of all derivations on the algebra $LS(M)$. In particular, we prove that if M is of type I_∞ then every derivation on $LS(M)$ is inner.

Key words: von Neumann algebras, non commutative integration, measurable operator, locally measurable operator, Hilbert – Kaplansky module, type I algebra, derivation, inner derivation.

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