The gleason theorem for the field of rational numbers and residue fields

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Abstract

Charges μ taking values in a field F and defined on orthomodular partially ordered sets (logics) of all projectors in some finite-dimensional linear space over F are considered. In the cases where F is the field of rational numbers or a residue field, the Gleason representation $\mu(P) = tr(T_\mu P)$, where T_μ is a linear operator, is proved. © 1999 Kluwcr Academic/Plenum Publishers.

Keywords

Charge, Gleason representation, Linear operator, Logic of linear projectors, Orthonormal partially ordered set (logic), Probability measure, Trace-class operator