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Order-theoretic   properties
of some sets of quasi-measures

Abstract: Let $\mathfrak{M}$ and $\mathfrak{R}$ be algebras of subsets of a set Ω with $\mathfrak{M} \subset \mathfrak{R}$, and denote by $E(\mu)$ the set of all quasi-measure extensions of a given quasi-measure μ on $\mathfrak{M}$ to $\mathfrak{R}$. We show that $E(\mu)$ is order bounded if and only if it is contained in a principal ideal in $ba(\mathfrak{R})$ if and only if it is weakly compact and $\operatorname{extr} E(\mu)$ is contained in a principal ideal in $ba(\mathfrak{R})$. We also establish some criteria for the coincidence of the ideals, in $ba(\mathfrak{R})$, generated by $E(\mu)$ and $\operatorname{extr} E(\mu)$.

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