عنوان مقاله:

mathcal{R}L- valued f-ring homomorphisms and lattice-valued maps\

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خلاصه مقاله:

In this paper, for each {\it lattice-valued map} $A\rightarrow L$ with some properties, a ring representation $A\rightarrow \mathcal{R}L$ is constructed. This representation is denoted by τ_c which is an f-ring homomorphism and a $\mathbb Q$-linear map, where its index c, mentions to a lattice-valued map. We use the notation $\delta_{pq}^{a}=(a - p)^{+}\wedge (q-a)^{+}$, where $p, q\in \mathbb Q$ and $a\in A$, that is nominated as {\it interval projection}. To get a well-defined f-ring homomorphism τ_c, we need such concepts as {\it bounded}, {\it continuous}, and $\mathbb Q$-{\it compatible} for c, which are defined and some related results are investigated. On the contrary, we present a cozero lattice-valued map $c_{\phi}:A\rightarrow L$ for each f-ring homomorphism $\phi: A\rightarrow \mathcal{R}L$. It is proved that $c_{\tau_c}=c^r$ and $\tau_{c_{\phi}}=\phi$, which they make a kind of correspondence relation between ring representations $A\rightarrow \mathcal{R}L$ and the lattice-valued maps $A\rightarrow L$, Where the mapping $c^r:A\rightarrow L$ is called a {\it realization} of c. It is shown that $\tau_{c^r}=\tau_c$ and $c^{rr}=c^r$. Finally, we describe how τ_c can be a fundamental tool to extend pointfree version of Gelfand duality constructed by B. Banaschewski.

کلمات کلیدی:

frame, cozero lattice-valued map, strong f-ring, interval projection, bounded, continuous, mathbb{Q}-compatible, coz-compatible

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