

Properties of strongly harmonic and Gelfand modules: idioms, frames and associated topological spaces

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a joint work with

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Abstract

In [1] and [2], we investigated some properties and characterizations of topological spaces associated to a module as well as the behavior of lattices, frames and idioms of submodules underlying. In particular, we study a prime spectrum with the hull kernel topology and the space of maximal submodules.

Following this investigation, recently, in [3] we introduce the notions of strongly harmonic and Gelfand modules, as a generalization of the well-known case of ring theory. These are linked to normal idioms.

In this talk, we explain some properties of these modules as well as a characterization via their lattice of submodules and their space of maximal submodules. In particular, we will see that under some assumptions, the space of maximal submodules of a strongly harmonic module constitutes a compact Hausdorff space whose frame of open sets is isomorphic to $\Psi(M)$, a frame defined in. If time allows it, we will mention some open questions that arose during this investigation as well as recent results (See also [4]).

Keywords

strongly harmonic modules, Gelfand modules, normal idioms, space of prime submodules, space of maximal submodules

References

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