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Abstracts of Short Communications and Posters

Section:

2. Algebra

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The Zariski topology on the prime spectrum of a module.
Let M be a module over a commutative ring R with identity, $X = \mathrm{Spec}(M)$ the collection of all prime submodules of M, and $\psi : \mathrm{Spec}(M) \to \mathrm{Spec}(R/\mathrm{Ann}(M))$ the natural map defined by $\psi(P) = (P : M) + \mathrm{Ann}(M)$ for every $P \in X$. In this talk, a topology on the prime spectrum X of M, named the Zariski topology, will be introduced and compared with the Zariski toplogy on $\mathrm{Spec}(R)$ from the point of view of spectral topological spaces. Results of the investigation indicate that the injectivity and the surjectivity of the natural map ψ play, respectively, important roles for X being a spectral space or satisfying partial condition(s) to be spectral.
References: C. P. Lu, Spectra of modules, Comm. Algebra, 23(10) (1995), 3741-4752.