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Abstracts of Short Communications and Posters

Section:

1. Logic

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Ideals in constructive ring and Banach algebra theory
Let R be a commutative ring with identity and an inequality $\neq$. Working within Bishop's constructive framework, I present a natural definition of maximal ideal, and introduce the property of semidetachability, extending that of detachability (decidable membership). These ideas lead smoothly to proofs of a number of desirable results: for example, a semidetachable maximal ideal in a discrete ring is prime, and a nonzero detachable principal prime ideal in a Euclidean domain is maximal. I also show that a located ideal in a Banach algebra is maximal if and only if it is the kernel of a character.
Reference: R. Mines. F. Richman, W. Ruitenburg, A Course in Constructive Algebra, Springer-Verlag, 1988.