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On basically prime non-free algebras over a commutative unital ring*

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Abstract. The basic ideal in Leavitt path algebras over a commutative unital ring could be generalized in both free and non-free algebras over a ring. A finitely generated (non-free) algebra is called basically prime if and only if its zero ideal is a prime basic ideal. A Basically prime algebra is not necessarily a prime algebra. The necessary and sufficient conditions of prime basic ideal in the finitely generated non-free algebra are equal to free algebra. Unlike in free algebra, the proof of the properties of prime basic ideal should not use free ideal, because the definitions of basic ideal and free ideal in the finitely generated algebra are not equivalent.

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