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Title: On algebras that are sums of two subalgebras satisfying certain polynomial identities

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We study an associative algebra A over an arbitrary field that is a sum of two subalgebras B and C (i.e. $A = B + C$). We prove that if B and C have commutative ideals of finite codimension then A/I , for some nilpotent ideal I of A , has a commutative ideal of finite codimension. Similar statements are shown for nilpotent and nil of bounded index ideals.

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