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92557. *Ideals in parabolic subalgebras of simple Lie algebras.*

We study ad-nilpotent ideals of a parabolic subalgebra of a simple Lie algebra. Any such ideal determines an antichain in a set of positive roots of the simple Lie algebra. We give a necessary and sufficient condition for an antichain to determine an ad-nilpotent ideal of the parabolic. We write down all such antichains for the classical simple Lie algebras and in particular recover the results of D. Peterson. (Received September 14, 2009)