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On the stability of weight spaces of enveloping algebra in prime characteristic

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By the result of Dixmier, any weight space of enveloping algebra of Lie algebra L over a field of characteristic 0 is $\text{ad}L$ stable. In this paper we will show that this result need not be true, if F is replaced by a field of prime characteristic. A condition will be given, so a weight space will be $\text{ad}L$ stable.

Subjects: **Rings and Algebras (math.RA)**

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