



Mathematics > Representation Theory

# Classification of Simple Lie Algebras on a Lattice

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(Submitted on 11 Jul 2011 (v1), last revised 3 Apr 2012 (this version, v2))

Let  $\Lambda$  be a lattice of rank  $n$ . A Lie algebra on the lattice  $\Lambda$  is a Lie algebra  $\mathcal{L} = \bigoplus_{\lambda \in \Lambda} \mathcal{L}_\lambda$  such that  $\dim \mathcal{L}_\lambda = 1$  for all  $\lambda$ . In this article, we classify all simple graded Lie algebras on a lattice.

Subjects: **Representation Theory (math.RT)**; Mathematical Physics (math-ph)

Cite as: **arXiv:1107.2082 [math.RT]**  
(or **arXiv:1107.2082v2 [math.RT]** for this version)

## Submission history

From: Kenji Iohara [[view email](#)]  
[v1] Mon, 11 Jul 2011 18:22:19 GMT (56kb)  
[v2] Tue, 3 Apr 2012 14:11:32 GMT (57kb)

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