

arXiv.org > math > arXiv:1107.0770

Mathematics > Quantum Algebra

Search or Article-id

(<u>Help</u> | <u>Advance</u> All papers -

## Download:

- PDF
- PostScript
- Other formats

Current browse cont math.QA

< prev | next >

new | recent | 1107

Change to browse b

math math-ph math.RT

References & Citatio

NASA ADS

Bookmark(what is this?)



Yucai Su, Xiaoqing Yue

(Submitted on 5 Jul 2011)

Let \$G\$ be a filtered Lie conformal algebra whose associated graded conformal algebra is isomorphic to that of general conformal algebra \$gc\_1\$. In this paper, we prove that \$G\cong gc\_1\$ or \${\rm gr\,}gc\_1\$ (the associated graded conformal algebra of \$gc\_1\$), by making use of some results on the second cohomology groups of the conformal algebra \$\fg\$ with coefficients in its module \$M\_{b,0}\$ of rank 1, where \$\fg=\Vir\ltimes M\_{a,0}\$ is the semi-direct sum of the Virasoro conformal algebra \$\Vir\$ with its module \$M\_{a,0}\$. Furthermore, we prove that \${\rm gr\,}gc\_1\$ does not have a nontrivial representation on a finite \$\C[\partial]\$-module, this provides an example of a finitely freely generated simple Lie conformal algebra of linear growth that cannot be embedded into the general conformal algebra \$gc\_N\$ for any \$N\$.

Subjects:	<b>Quantum Algebra (math.QA)</b> ; Mathematical Physics (math-ph); Representation Theory (math.RT)
MSC classes:	17B10, 17B65, 17B68
Journal reference:	Journal of Algebra 340 (2011), 182198
Cite as:	arXiv:1107.0770 [math.QA]
	(or arXiv:1107.0770v1 [math.QA] for this version)

Filtered Lie conformal algebras whose

associated graded algebras are isomorphic

to that of general conformal algebra \$gc\_1\$

## **Submission history**

From: Yucai Su [view email] [v1] Tue, 5 Jul 2011 02:53:12 GMT (19kb)

Which authors of this paper are endorsers?

Link back to: arXiv, form interface, contact.