

1106-53-771

Ryad A Ghanam* (raghanam@vcu.edu), Doha, Qatar. *Representations of Low Dimensional Lie Algebras and Applications*. Preliminary report.

In this talk I will report on the progress of the problem of finding linear representation for low-dimensional Lie algebras. For each Lie algebra of dimension less than or equal to six, we will give a matrix Lie group whose Lie algebra is the given algebra in the list. I will also report on the progress of the finding representations for the seven-dimensional nilpotent Lie algebras. As an application, I will show how Lie algebra plays a major role in understanding and solving partial differential equations. (Received September 06, 2014)