

1105-22-351

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and **Tatiana Howard**. *Subalgebras of Real Simple Lie Algebras*. Preliminary report.

The study of reductive subalgebras of a complex simple Lie algebra \mathfrak{g} has a long and rich history. Borel and de Siebenthal classified the reductive subalgebras of \mathfrak{g} of the same rank. We consider the corresponding problem when \mathfrak{g}_0 is a real simple Lie algebra. It turns out that in the classical case this reduces to the classification of semisimple symmetric spaces, due to Berger from the 1950s. In the exceptional case it amounts to some Lie algebra cohomology calculations which we describe, and give tables of the results. (Received September 23, 2014)