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Dave Anderson* (anderson.2804@math.osu.edu), **Mathieu Florence** and **Zinovy Reichstein**. *Rationality of a Lie algebra over its quotient by the adjoint action.*

A semisimple algebraic group G acts on the function field of its Lie algebra $k(\mathfrak{g})$ via the adjoint action, and a basic question is this: can $k(\mathfrak{g})$ be generated by algebraically independent elements over the invariant field $k(\mathfrak{g})^G$? In 2011, Colliot-Thélène, Kunyavskiĭ, Popov, and Reichstein found the answer for all groups not containing a factor of type G_2 . We recently settled this last case. I will give a rough overview of the problem, and sketch the solution in the G_2 case concretely. (Received August 28, 2014)