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Robert J Stanton* (stanton@math.ohio-state.edu), Ohio State University, Department of Mathematics, 231 W. 18th Ave., Columbus, OH 43210. *Symplectic methods and Lie algebras*. Preliminary report.

I will illustrate several of the main points in the project with M. Slupinski through the explicit example of a simple Lie algebra of type split G_2 . In particular, using symplectic-geometric tools I will give a construction of such a Lie algebra starting with binary cubics. Also, I will describe how to obtain Shintani's classic work on the zeta function for binary cubics using symplectic methods. (Received February 05, 2008)