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Discriminants of theta-representations

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Abstract. Tevelev has given a remarkable explicit formula for the discriminant of a complex simple Lie algebra, which can be defined as the equation of the dual hypersurface of the minimal nilpotent orbit, or of the so-called adjoint variety. In this paper we extend this formula to certain graded Lie algebras, and express the equation of the corresponding dual hypersurfaces in terms of the reflections in the little Weyl groups, the associated complex reflection groups. This explains, for example, why the codegree of the Grassmannian $G(4,8)$ is equal to the number of roots of $\mathfrak{e}_7$.

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