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(rk71@queensu.ca) and **Elina Robeva**. *The degree of the special orthogonal group.*

The set of rotation matrices, $SO(n)$, forms an irreducible algebraic variety. A formula for the degree of this variety can be derived from the work of Kazarnovskii. However, the computations involved in deriving the formula are complicated and prone to error. Moreover symbolic algorithms could only determine the degree for n at most 5, which is too small to adequately verify the formula in the even case. With a numerical computation using monodromy we show the the degree of $SO(6)$ is 4768, confirming the formula value. (Received September 20, 2016)