1048-17-121   **Mark L MacDonald*** (`mlm@math.ubc.ca`), Department of Mathematics, University of British Columbia, Room 121, 1984 Mathematics Road, Vancouver, BC V6T 1Z2, Canada. *Essential dimension of Jordan algebras.* Preliminary report.

One can use knowledge of the structure theory of Jordan algebras to count the number of parameters needed to define an arbitrary reduced simple Jordan algebra of a given degree. This number is called the essential dimension.

More specifically, all reduced simple Jordan algebras of degree $n \geq 3$ are made by combining a quadratic form of dimension n and a composition algebra. This follows from Jacobson's Coordinatization theorem. We will use this to find the essential dimension of the associated automorphism groups, such as PSp_{2n} and $\mathrm{Spin}(m)$ for $m = 7, 8, 9$. (Received February 02, 2009)