1048-15-156   **Ian Anderson*** (`ian.anderson@usu.edu`), Dept. of Math. and Stat., Utah State Univ., Logan, UT 84322, and **Evelyne Hubert** (`Evelyne.Hubert@sophia.inria.fr`), Sophia, France. *Lie's Theorem and its Applications.*

A fundamental theorem of Lie asserts that for any representation of a solvable Lie algebra, there is a basis in which the representation is given by upper triangular matrices. We shall present a new, computationally effective proof of this theorem. Applications to the symbolic solution of systems of first order ODE shall be discussed. (Received February 05, 2009)