
Most work with differential and polynomial systems has concentrated on exactly given systems (e.g. with rational coefficients). In this presentation we consider polynomial (and differential) system with approximate coefficients. We characterize nearby involutive systems, using methods arising from the Jet geometry of partial differential equations. A procedure is given for their computation, provided certain stability requirements are satisfied. Examples of the surprisingly rich phenomena for such systems are given. This area lies at the intersection of geometry, algebra and numerical analysis. (Received September 22, 2005)