

1046-01-1693

Daniel E. Otero* (otero@xavier.xu.edu), Department of Mathematics & Computer Science, Xavier University, 3800 Victory Parkway, Cincinnati, OH 45207-4441. *Determining the determinant: the early years.*

The history of the development of the determinant – of a linear system of equations, of a square matrix, or of a linear endomorphism on a vector space – is a complex one. While this history has been studied carefully before, it is still not presently well known. This paper reviews the early years of this story, spanning the 18th century, and found in the work of many mathematicians: Leibniz, Maclaurin, Cramer, Bézout, Vandermonde, Laplace, Lagrange, Gauss, Binet, Cauchy, and Jacobi. It begins in the formulization of solutions to systems of equations and leads quickly to questions of what algebraic conditions impinge on the structure of solution sets. (Received September 16, 2008)