1116-VA-2882   **Alfonso E Heras-Llanos*** (`aheras@unm.edu`). *Arithmetic Differential Subgroups of Gl_n.*

A remarkable and special Galois Theory appears from the study of arithmetic analogue of ordinary differential equations; where functions are replaced by integers, the derivative operator replaced by the "Fermat quotient operator" and differential equations are replaced by arithmetic differential equations. The main result of this presentation will be the study of a very special class of arithmetic subgroup of Gl_n. These subgroups are arithmetic analogues of the differential algebraic groups of E.R. Kolchin and P. Casidy. As a by-product, we found more analogies between the ordinary differential operator and the Fermat Quotient Operator, such as the chain rule and the product rule. We will also introduce a set of functions, that we call Leibniz Systems. These functions "generate" some examples of the differential subgroups of Gl_n. (Received September 22, 2015)