

1163-11-1217 **Taylor Dupuy*** (tdupuy@uvm.edu), University of Vermont, Department of Mathematics and Statistics, 82 University Pl, Burlington, VT 05405. *New and Old Results in Wittferential Algebraic Geometry.*

In the 90's Buium and Joyal introduced an arithmetic analog of derivatives on number rings called a "p-derivations". These operations behave like "derivatives over the field with one element" and have become ubiquitous in Arithmetic Geometry and Algebraic Topology and have many applications.

Sample application include –effective versions of Manin-Mumford –prismatic cohomology –carving out isogeny classes by wittferential varieties (and getting diophantine results) –an "arithmetic Kodaira-Spencer theory" –theta operations –an arithmetic variant of Lie theory

In this talk we will give a general introduction to the standard Buiumisms (Jackson Morrow's word) and touch on recent developments with an eye toward themes of the session. (Received September 15, 2020)