1125-05-1522 **John Polhill*** (jpolhill@bloomu.edu), Dept. of Mathematical and Digital Sciences, Bloomsburg University of PA, 400 East Second Street, Bloomsburg, PA 17815. *Families of Strongly Regular Graphs and Two-Weight Codes from Partial Difference Sets.* Preliminary report.

A partial difference set is a subset of a finite group with an additional difference property. The author of this paper has in the past given several product constructions of infinite families of these sets. It so happens that partial difference sets correspond both to certain strongly regular graphs as well as projective two-weight codes. The purpose of this talk is to explore the partial difference set constructions in the contexts of strongly regular graphs and two-weight codes. We will focus on a result that is not yet published and is in groups of order 3^k so that the resulting infinite family of codes is ternary. The family of codes includes the optimal ternary code of length 10, dimension 4, and nonzero weights 6 and 9. (Received September 17, 2016)