1086-05-492 **Joseph Chaffee*** (chaffjr@auburn.edu) and **Chris Rodger**. *Quadratic Leaves of Partial Triple Systems.*

It is well known that a λ-fold Steiner triple system on n points is equivalent to a K_3-decomposition of λK_n. Necessary and sufficient conditions for λ-fold Steiner triple systems are also well known. A partial triple system is a partial decomposition of λK_n into K_3 (so we use some but maybe not all of the edges in λK_n). The leave of a partial triple system, for the purposes of this talk, is the graph on n vertices that consists of all edges of λK_n not used in a K_3. In this talk, we discuss partial triple systems and what graphs can be leaves of partial triple systems. In particular, we focus on quadratic leaves (a quadratic graph is a graph in which each vertex has degree 2 or 0) and extend two well-known results of Rosa and Colbourn. (Received September 04, 2012)