1011-05-376 **William J. Martin*** (martin@wpi.edu), Department of Mathematical Sciences, Worcester Polytechnic Institute, Worcester, MA 01609, and **Jason S. Williford** (jsw@wpi.edu), Department of Mathematical Sciences, Worcester Polytechnic Institute, Worcester, MA 01609. *Some remarks on imprimitive cometric (Q-polynomial) association schemes.* Preliminary report.

Suzuki (J. Algebraic Combin., 1998) gave a classification of imprimitive cometric association schemes. He proved that such a scheme is either Q-bipartite, Q-antipodal or satisfies one of two special conditions. In this talk, we first investigate structural conditions on such association schemes. If $\sum_{i\in S} A_i = I_w \otimes J_r$ where $1 < r, w < |X|$, then we prove that $r = 2$ when the scheme is Q-bipartite, $w \leq m_1 + 1$ when the scheme is Q-antipodal, and more. We investigate vanishing intersection numbers in each case. We obtain most results by looking at the eigenspace geometry of the scheme. We also give parameter sets for potential cometric schemes that are not distance-regular graphs and we include a construction of some new imprimitive cometric schemes. (Received August 30, 2005)