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Enumeration of Triangles in Quartic Residue Graphs.

Quartic residue graphs are graphs whose vertices are the elements of $\mathbb{Z}/p\mathbb{Z}$, where p is a prime congruent to 1 modulo 4, and the edges are formed when the difference between the vertices is a quartic residue. We wish to extend the results found in Maheswari and Lavaku's article on the relationship between the number of triangles in a quadratic residue graph and the number of consecutive pairs in the quadratic residues into a similar connection for quartic residues and their associated quartic residue graphs. (Received September 17, 2010)