ABSTRACT

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ABSTRACT: The digraph of a finite field, Zp, denoted (Zp), has p2 vertices. Of these, ((p^22)/2) are sources and ((p^2+2)/2) are non-sources, where p is the order of the finite field Zp. If we expand each vertex in (Zp) to a set of q^2 vertices in (Zpq) we can generate all of the vertices in (Zpq). We show that we can count the number of source vertices in any directed graph of Zpq through the expansion of source and non-source vertices in Zp.