Pani Seneviratne* (pseneviratne@aus.edu), Department of Mathematics & Statistics, American University of Sharjah, Sharjah, 26666, United Arab Emirates. Codes from incidence matrices and line graphs of generalized Paley graphs. Preliminary report.

We examine the binary codes from incidence matrices of generalized Paley graphs $GP(q, S)$, where $q$ is an odd prime power. We show that the binary codes are $[\frac{qs}{2}, q - 1, s]$, when $s$ is even and $[qs, q - 1, 2s]$, when $s$ is odd, where $s = |S|$. By finding explicit PD-sets we show that these codes can be used for permutation decoding. (Received September 07, 2011)