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Padmapani Seneviratne* (padmapani.seneviratne@tamuc.edu), Department of Mathematics, Texas A&M University, P.O. Box 3011, Commerce, TX 75429-3011. *(0, 2)-graphs and their codes*. Preliminary report.

Binary codes obtained from the neighborhood designs of $(0, 2)$ -graphs Γ , the cartesian product $2\Gamma = \Gamma \times K_2$ and their reflexive graphs $\tilde{\Gamma}$ and $\tilde{2\Gamma}$ are introduced. We show that the binary codes from the neighborhood designs of 2Γ and $\tilde{2\Gamma}$ are self-dual. Further, bounds on the minimum distance and partial weight distributions of these codes are obtained. In particular, we show that many optimal binary self-dual codes can be obtained by this construction method. (Received September 15, 2014)