1053-05-28 Wenfong Ke (wfke@mail.ncku.edu.tw), Tainan, 701, Taiwan, Po-Yi Huang (pyhuang@mail.ncku.edu.tw), Tainan, 701, Taiwan, and Günter F Pilz* (Guenter.Pilz@jku.at), Altenbergerstr. 69, 4040 Linz, Austria. The Cardinality of Some Symmetric Differences.

In this note, we prove that for positive integers k and n, the cardinality of the symmetric differences of $\{1, 2, \ldots, k\}$, $\{2, 4, \ldots, 2k\}$, $\{3, 6, \ldots, 3k\}$, \ldots , $\{n, 2n, \ldots, kn\}$ is at least k or n whichever is larger. This solved a problem raised in [Contributions to General Algebra 8, Hölder-Pichler-Tempsky, Vienna (1992), 233–238] where binary composition codes were studied. (Received June 26, 2009)