1135-03-1015 **Rachel Epstein*** (rachel.epstein@gcsu.edu) and **Karen Lange** (klange2@wellesley.edu).
Computable reducibility and equality on a given set. Preliminary report.

An equivalence relation E on the set of all computably enumerable (c.e.) sets is *computably reducible* to an equivalence relation F on the c.e. sets, written $E \leq F$, if there is a computable function f such that $W_n \; E \; W_m$ if and only if $W_{f(n)} \; F \; W_{f(m)}$. Coskey, Hamkins, and R. Miller have explored the hierarchy of equivalence relations on the c.e. sets. Here we look at a natural class of equivalence relations and fit them into the hierarchy. The equivalence relation E_A on the c.e. sets is given by $W_n \; E_A \; W_m$ if and only if $W_n \cap A = W_m \cap A$. If A is c.e., then it is not hard to show that E_A is computably bireducible to the equality equivalence relation on the class of c.e. sets, which we call $=^{ce}$. If A is co-c.e., then $E_A \leq =^{ce}$ and the reduction is strict if and only if A is hyper-hyper-immune. We also construct sets A and B such that E_A and E_B are incomparable under computable reducibility. (Received September 18, 2017)