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William J Keith* (wjkeith@mtu.edu), 1400 Townsend Drive, Dept. of Mathematical Sciences, Fisher Hall, Houghton, MI 49931. *Partitions simultaneously regular, distinct, and/or flat.*

It is a classical fact in partition theory that three classes of partitions are equinumerous: those in which parts are not divisible by m , those in which parts appear fewer than m times, and those in which parts differ by less than m and the first part is smaller than m . Glaisher's map and conjugation prove the two equivalences, but yield little information about their fixed points, partitions with two or more of the given conditions.

This talk will explore some interesting results concerning these sets and their close cousins; for instance, generating functions for the fixed points of Glaisher's map appear as some of the Thompson-McKay series for the Monster group, and particular classes have additional congruences and symmetries. (Received September 21, 2015)