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Nathan Chenette, Lara Pudwell* (lara.pudwell@valpo.edu) and **Manda Riehl**. *Statistics on hypercube orientations*. Preliminary report.

In mathematical biology, acyclic orientations of the n -dimensional hypercube graph provide a model for fitness landscapes after sequences of gene mutations. Given such an orientation, we say vertex v is a peak if all edges containing v are directed towards v . We also say four vertices a , b , c , and d form a reverse sign epistasis (RSE) if there are edges directed from a to b , a to d , c to b , and c to d . In this talk, we consider the combinations of (number of peaks, number of RSEs) that are possible in such an orientation. (Received September 06, 2019)