

## Cliques in the realization graph of a degree sequence

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Given a degree sequence  $d$  of a finite graph, there are usually many different realizations of the sequence by labeled graphs. The *realization graph of  $d$*  is the reconfiguration graph whose vertices are these realizations, with edges denoting the reconfiguration operation known as a “2-switch” in which a pair of edges in a realization is swapped for a pair of non-edges. The realization graph is known to be connected for all  $d$ , and it is conjectured that it always has a Hamilton path or cycle. After a quick introduction of the realization graph, we characterize both degree sequences and configurations within realizations that allow for large cliques in the realization graph. We also determine the degree sequences  $d$  whose realization graph is the complete graph  $K_n$  for all  $n$ . This is joint work with Nathan Haronian (Brown University).

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