1127-05-273   **Steve Butler*** (`butler@iastate.edu`). *Recovering permutations over a deletion channel.* Preliminary report.

A d-deletion channel $\mathcal{C}$ will take a sent message, remove up to d symbols, and then contract the resulting message before delivery. We consider the problem of finding a permutation σ acting on $[n]$ so that for any message M with n distinct symbols if $\mathcal{C}(M)$ and $\mathcal{C}(\sigma(M))$ collectively contain all n symbols, then M can be determined. Forbidden structures in σ are established in terms of existence of cycles in an auxiliary graph. We show for permutations which are sufficiently spreading, avoiding these structures is sufficient to be able to reconstruct. (Received February 05, 2017)

1