

Abstract

The sequence reconstruction problem was first introduced by V. Levenshtein in 2001. It studies a model in which the same sequence from a given set is transmitted over multiple channels, and the decoder receives the resulting different outputs. In this talk, I will introduce some basic background of this problem, review some known results related to permutations and DNA storage, and present our recent findings: one is about the sequence reconstruction of permutations under the Hamming distance or the Kendall τ -distance, and the other is about the sequence reconstruction problem for the deletion channel in DNA storage.