Kernelization for Paw-free Edge Modification

Abstract

Given a fixed graph H, the H-free edge deletion (resp. addition) problem asks for a set of at most k edges whose deletion (resp. addition) from a graph makes it contain no induced copy of H. The kernelization complexity for H-free edge deletion and edge addition problems was known when H is a four-vertex graph except for paw, claw and their complements. We report polynomial kernels for both the paw-free edge deletion problem and the paw-free edge addition problem.