
MURRAY PATTERSON, University of British Columbia

The Gapped Consecutive-Ones Property

A binary matrix M has the (k, δ) -Consecutive-Ones Property (C1P) if the columns of M can be ordered such that each row contains at most k blocks of 1's, and no two neighboring blocks are separated by a gap of more than δ 0's. Here we show that for every unbounded or bounded $k \geq 2, \delta \geq 1$, except when $(k, \delta) = (2, 1)$, deciding the (k, δ) -C1P is NP-complete, as well as an interesting case that is polynomial-time decidable.