ON THE SEGMENT NUMBER OF A PLANAR GRAPH

SABINE CORNELSEN, GIORDANO DA LOZZO, LUCA GRILLI,
SIDDHARTH GUPTA, JAN KRATOCHVÍL*, ALEXANDER WOLFF

The line cover number of a planar graph G is the minimum number of lines that support all the edges of a plane straight-line drawing of G. The segment number of G is the minimum number of connected straight-line segments that are formed by a plane straight-line drawing of G. We prove that the segment number is in FPT when parameterized by several standard invariants of the input graph. We find of particular interest that even the list-segment version of the problem remains Fixed Parameter Tractable.