Amram, Meirav; Cohen, Moshe; Sun, Hao Max; Teicher, Mina
The height of a permutation and applications to distance between real line arrangements. (English) Zbl 1493.14091 Turk. J. Math. 44, No. 6, 2041-2061 (2020).

In the paper under review, the authors present a new notion of a distance between two real line arrangements (that is quite technical). The authors define the so-called height of a permutation and using this idea they provide a lower bound on the distance between a pair of arrangements - see Theorem 3.9 therein. Finally, the authors apply these techniques to the seven special cases of real line arrangement of ten lines (which have been found previously by the authors) providing the actual values of the distances for 3 cases of arrangements having $\mathbb{Z}_2$-symmetry and some bounds for other 4 cases.

Reviewer: Piotr Pokora (Kraków)

MSC:
14N20 Configurations and arrangements of linear subspaces
14H37 Automorphisms of curves
14D06 Fibrations, degenerations in algebraic geometry
14Q05 Computational aspects of algebraic curves
32S22 Relations with arrangements of hyperplanes
52C35 Arrangements of points, flats, hyperplanes (aspects of discrete geometry)

Keywords:
moduli space; automorphism group; line arrangements; distance invariant; degenerate arrangements

Full Text: DOI

References:
[1] L1[x_, t_] := (-t)/(t -1) x L2[x_, t_] := ((t -1)/-t x L3[x_, t_] := (1

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