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Realization spaces of arrangements of 11 complex projective lines. Preliminary report.

Given the combinatorial intersection data (or matroid) of a line arrangement, we study its space of geometric realizations in the complex projective plane. We say an arrangement is “interesting” if its realization space has at least two connected components after quotienting out by complex conjugation. The realization spaces of arrangements of 10 and fewer lines have been classified, yielding a list of interesting arrangements; we seek to extend this list to 11 lines. We discuss previous results on such arrangements with only double and triple points and then report on new results for arrangements with quadruple points, as well. (Received September 23, 2018)