

# PENTAGRAM MAP, TWENTY YEARS AFTER

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ABSTRACT. Introduced by R. Schwartz about 20 years ago, the pentagram map acts on plane  $n$ -gons, considered up to projective equivalence, by drawing the diagonals that connect second-nearest vertices and taking the new  $n$ -gon formed by their intersections. The pentagram map is a discrete completely integrable system whose continuous limit is the Boussinesq equation, a completely integrable PDE of soliton type. In this talk I shall survey recent work on the pentagram map and its generalizations, emphasizing its close ties with the theory of cluster algebras, a new and rapidly developing area with numerous connections to diverse fields of mathematics.