

Y -meshes and generalized pentagram maps

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We introduce a rich family of generalizations of the pentagram map sharing the property that each generates an infinite configuration of points and lines with four points on each line. These systems all have a description as Y -mutations in a cluster algebra and hence establish new connections between cluster theory and projective geometry. *Our framework incorporates many preexisting generalized pentagram maps due to M. Gekhtman, M. Shapiro, S. Tabachnikov, and A. Vainshtein and also B. Khesin and F. Soloviev.*

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