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**Anna Gundert** and **Edward D Kim\*** ([ekim@math.ucdavis.edu](mailto:ekim@math.ucdavis.edu)), Department of Mathematics, One Shields Avenue, Davis, CA 95616, and **Daria Schymura**. *Lattice paths and Lagrangian matroids*. Preliminary report.

Lagrangian matroids are a class of Coxeter matroids, an extension of ordinary matroids. Many subclasses of Coxeter matroids, including Lagrangian matroids, can be defined directly in terms of ordinary matroids or exchange axioms. We investigate lattice path Lagrangian matroids, a family of Lagrangian matroids introduced by Joe Bonin and Anna de Mier, following a suggestion of Vic Reiner that there could be a Lagrangian counterpart to the Catalan matroid. One definition for Lagrangian matroids involves a construction of ordinary matroids. We prove that, for lattice path Lagrangian matroids, the matroids arising from this construction are indeed lattice path matroids. (Received February 16, 2010)