Abstract Submitted
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An extension of shear and strain LCS concepts to higher dimensions[1] SIAVASH AMELI, SHAWN C. SHADDEN, University of California, Berkeley — A framework is presented for the extension of strain and shear barrier concepts to R^n. The concept of shear barrier was introduced by Haller & Beron-Vera [Physica D 241 2012] in R^2. The framework presented herein also generalizes to normally hyperbolic, or strain LCS, as introduced by Haller [Physica D 240 2011]. We use a projection operator approach to define Lagrangian shear strain and Lagrangian normal strain vector fields from the Cauchy-Green strain tensor. These Lagrangian strain vector fields are the basis for defining maximal shear LCS, and maximal and minimal strain LCS. Criteria for shear and strain LCS are natural analogs, helping to unify these concepts.

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