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In the S2S community, there is a need to decompose tropical variability into predictable and unpredictable components. In particular, there is a need to filter the predictable components into the MJO and other forms of variability, such as those associated with ENSO. Most methods for doing this decomposition, and for identifying the MJO, have relied on indices obtained by projecting data onto a small number of empirical orthogonal functions. In this talk, we demonstrate how a linear inverse model (LIM) can be used both as a filter of tropical variability relative to existing MJO indices, and as a way of defining its own MJO index. In particular, it is shown how a LIM-based dynamical index can more effectively filter out contributions to the MJO from other phenomena, such as those arising from ENSO.

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