Mathematics of the Weather 2024





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Well-Posedness of the Dynamic Framework in Earth-System Model

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The well-posedness of the dynamic framework in earth-system model (ESM for short) is a common issue in earth sciences and mathematics. In this presentation, the authors will introduce the research history and fundamental roles of the well-posedness of the dynamic framework in the ESM, emphasizing the three core components of ESM, i.e., the atmospheric general circulation model (AGCM for short), land-surface model (LSM for short) and oceanic general circulation model (OGCM for short) and their couplings. In fact, this system strictly obeys the conservation of energy and is used to make better climate predictions. Then, some research advances made by their own research group are outlined. Finally, future research prospects are discussed.

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