

Special Program in Applied Mathematics and Applied Mechanics

Tracing origins of coupled global climate model biases through a hindcast approach

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308, Mathematics Research Center Building (ori. New Math. Bldg.)

Coupled global climate models are essential tools for past, current and future climate studies. The better understanding of Earth's climate systems heavily relies on the fidelity of model representations of processes, from small-scale turbulence and clouds to large-scale planetary circulation. Nevertheless, contemporary climate models still suffer from various systematic errors in these processes that can significantly hinder models' ability to faithfully reproduce past or current climate. In this presentation, we will focus on the errors in the surface temperature simulations in the models since accurate simulations and predictions of surface temperature evolution are important for regional and global weather forecasts. A coupled model hindcast framework to better understand and identify the causal relationship of model errors will be presented.

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