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TATA INSTITUTE OF FUNDAMENTAL RESEARCH

ICTS Fluid Dynamics Seminar

Title : Marine Cloud Brightening

Speaker : Prasanth Prabhakaran (University of Colorado Boulder, Colorado)

Date : Friday, 09th February, 2024

Time : 11:00 AM (IST)

Abstract : Marine low clouds reflect a significant fraction of the incoming solar radiation and thus have a net cooling effect on the planet. The high sensitivity of these clouds to aerosol concentration has led to speculations about altering planetary albedo (reflectivity) by increasing the aerosol concentration. This proposed climate intervention approach is referred to as marine cloud brightening (MCB) where the albedo of the shallow marine clouds is enhanced by the deliberate injection of sea-spray aerosol particles. The objective of this approach is to temporarily suppress global warming to provide ample time for decarbonizing efforts to scale up. In this talk, I will present the physical science behind MCB and discuss the current knowledge gaps. Additionally, I will show results from recent large-eddy simulations (LES) exploring the role of intermittent aerosol perturbations on stratocumulus-to-cumulus transition in the North-East Pacific.

Venue : Offline: Emmy Noether Seminar Room

Online: Please click on the below link to join the seminar

<https://icts-res-in.zoom.us/j/93714974775?pwd=M2tTVmUwUHNpaU5JTG1UNVIxWm9vUT09>

Meeting ID: 937 1497 4775

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