ESI Erwin Schrödinger International Institute for Mathematics and Physics

universität wien

DVR 0065528

# Seminar

## Arthur Mariano

University of Miami

## Some Comments on Ocean Modeling

**Wednesday, May 10, 2023**

**at 15:15 h**

**ESI, Boltzmann Lecture Hall and online via Zoom meeting**

**Abstract:** Numerical modeling of ocean circulation and dynamics requires, in general, a set of dynamical conservation equations, initial (ICs) and boundary conditions (BCs), forcing and dissipation, topography, and numerical schemes to digitize and temporally evolve the equations for the domain of interest. The traditional approach to ocean modeling takes a classical physics approach that all of these requirements are deterministic once each component is selected for a given numerical simulation. However, given that there are unresolved scales in the model grid/coastlines/topography, and also in the ICs, BCs and forcing, a more stochastic approach is recommended. This can be accomplished through the use of Monte-Carlo methods that perturb ICs and/or forcing, stochastic BCs, and using stochastic dissipation operators. These three research avenues will be discussed in my talk.

A. Constantin, D. Dritschel, N. Paldor
Zoom coordinates: https://univienna.zoom.us/

Meeting ID: 663 0694 7737
Passcode: hkmQPT

May 2, 2023