

O Programa de Pós-Graduação em Estatística convida para:

## WEBINAR

### **A Novel Rayleigh Dynamical Model for Remote Sensing Data Interpretation**

#### **Palestrante:**

Prof. Fábio M. Bayer (EST/UFSM)

DATA: 29/04/2021 (quinta-feira)

HORÁRIO: 14:00h (horário local de Brasília)

O seminário é público e poderá ser assistido pelo Link

<https://teams.microsoft.com/l/meetup-join/19.>

#### **Resumo**

This article introduces the Rayleigh autoregressive moving average (RARMA) model, which is useful to interpret multiple different sets of remotely sensed data, from wind measurements to multitemporal synthetic aperture radar (SAR) sequences. The RARMA model is indeed suitable for continuous, asymmetric, and nonnegative signals observed over time. It describes the mean of Rayleigh-distributed discrete-time signals by a dynamic structure including autoregressive (AR) and moving average (MA) terms, a set of regressors, and a link function. After presenting the conditional likelihood inference for the model parameters and the detection theory, in this article, a Monte Carlo simulation is performed to evaluate the finite signal length performance of the conditional likelihood inferences. Finally, the new model is applied first to sequences of wind speed measurements, and then to a multitemporal SAR image stack for land-use classification purposes. The results in these two test cases illustrate the usefulness of this novel dynamic model for remote sensing data interpretation.

[with Débora M. Bayer (UFSM), Andrea Marinoni (The Arctic University of Norway) and Paolo Gamba (University of Pavia)]

