



Announcing

A COS 740 Seminar

Friday, February 22, 2008 at 2:00 pm

SH 303

at The University of Southern Mississippi

Speaker: Chih-Hsiang Ho

Department of Mathematical Sciences
University of Nevada

Title: Hazard area and recurrence time series for probability of volcanic disruption of the proposed high-level radioactive waste repository at Yucca Mountain, Nevada

Abstract:

The post-12-Ma volcanism at Yucca Mountain, Nevada, a potential site for an underground geologic repository of high-level radioactive waste in the USA, is assumed to follow a Poisson process and is fingerprinted with a sequence of empirical recurrence rate (ERR) time series. The last 10 ERRs are used as a holdout sample to check the predictive ability of the candidate model produced by a training sample using the time series modeling techniques. The model is used to forecast future recurrence rates that are used to develop the mean function of the volcanic process. We then present the site disruption probability as the chance that a new eruption will occur in the “hazard area” based on a model developed for licensing commercial space launch and re-entry operations in the space transportation industry. The results of the site disruption probability and sensitivity analysis are summarized with a numerical table sufficient for practical use.

Further Information

Further details and information about this and other departmental activities is available online at http://www.math.usm.edu/bulletin_board/.