

Gambler's scores for earthquake prediction

Jiancang Zhuang[1]

[1] ISM

This study presents a new method for scoring earthquake forecasts or predictions. Most scoring procedures for evaluating the performance of the earthquake prediction require a regular scheme of forecasts or prediction. However, there also are a lot of irregular (wildcard) predictions, especially when the researcher has limited time to keep track on the forecasting region, and when the prediction method is still under developing. In this new scoring method, we assume that each time the forecaster makes a prediction or forecast, he bets some credits. The baseline model, which plays the role of the house, determines how many credits the forecaster can gain if he succeeds, according to a fair rule, and takes away the credits bet by forecaster if he loses. From the viewpoints of either of the baseline model and the forecaster, the rule for rewarding and punishment is fair. If the baseline model is true, the expectation of the total gain and loss of the forecaster is 0; and, if the forecaster's model is true, the expectation of the total gain and loss of the baseline model is 0.