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H Thomas Banks* (htbanks@ncsu.edu), CRSC Box 8212 NCSU, Raleigh, NC 27695. *Using the Prohorov Metric to Inform GBM Modeling.*

Glioblastoma Multiforme (GBM) is a malignant brain cancer with a tendency to both migrate and proliferate. We propose modeling GBM using a random differential equation version of the reaction-diffusion equation, where the diffusion parameters D and growth rates are random variables. We investigate the ability to perform the inverse problem to recover the probability distributions of D and the growth rates using the Prohorov metric. We give an overview of use of the Prohorov metric which is equivalent to the weak* topology on the space of probability measures when imbedded in the topological dual of the space of bounded continuous functions. This represents joint efforts with Erica Rutter and Kevin Flores at NCSU. (Received July 24, 2017)