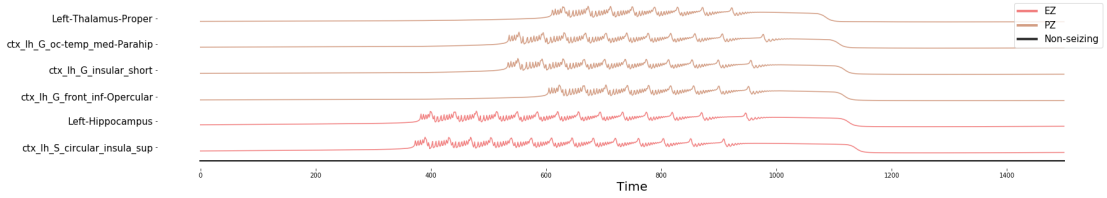
Report for diagnosing problems with HMC

January 6, 2020

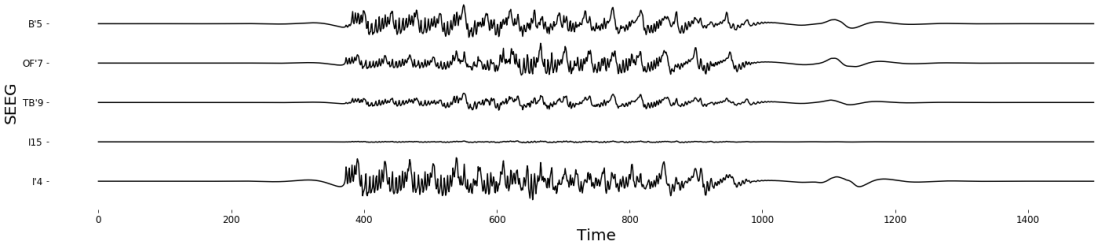
The objective is to identify spatio-temporal seizure propagation patterns

Dataset

In order test the model, a synthetic dataset is generated using 5D Epileptor



(a) Source activity



(b) SEEG activity

Figure 1: Simulated seizure propagation pattern

Modeled data features

Given appropriate parameter values 2D Epileptor can capture some of the important characteristics of a seizure namely seizure onset and seizure length, which are sufficient for the purposes of identifying spatio-temporal seizure propagation patterns. Log. SEEG power encompasses both these features and hence forms a good candidate data feature that can be modeled using 2D Epileptor. See figure 2

Model

Results

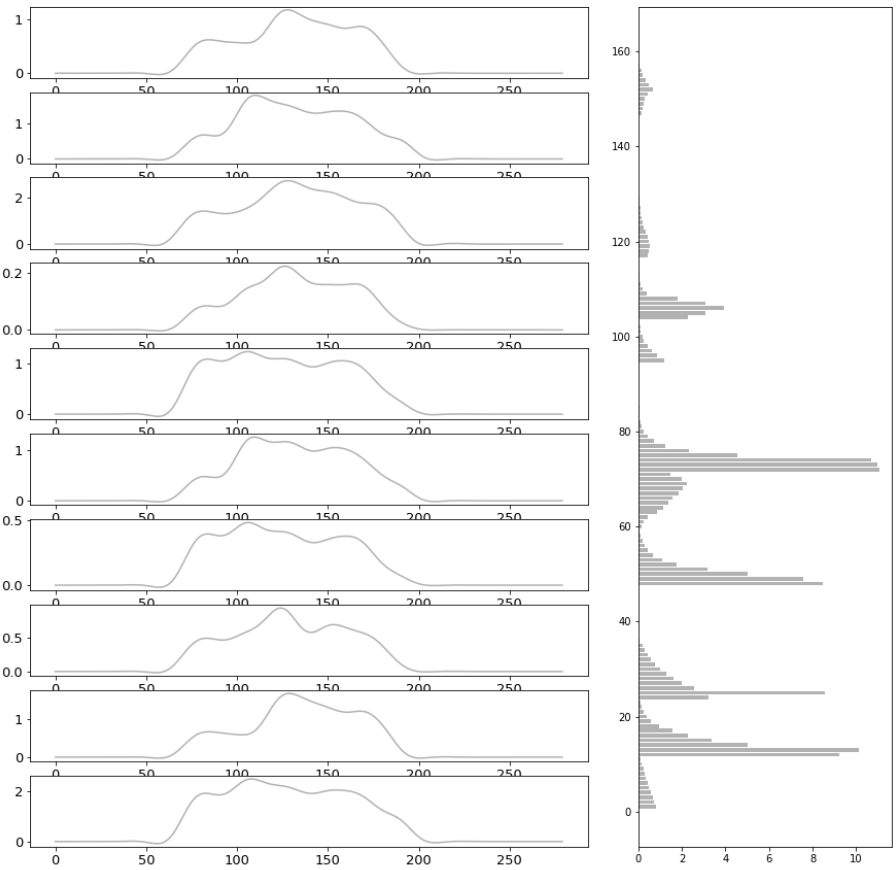


Figure 2: Modeled data features. SEEG log power of 10 sensors(left) and total power per sensor(right)

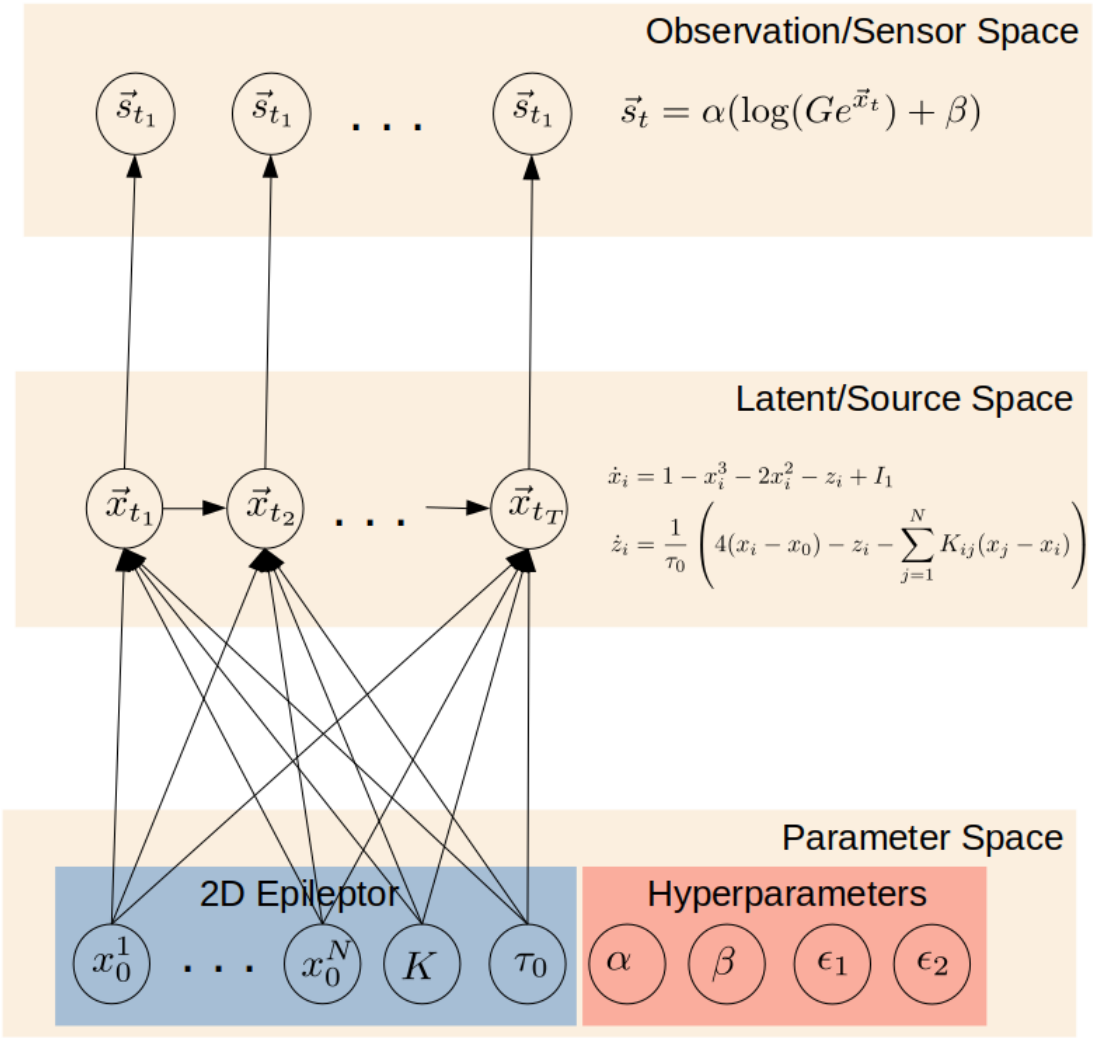


Figure 3: model