

### Motivation

Changes in the pattern of seizure progression can differentiate responders and non-responders treated using closed-loop brain stimulation (Kokkinos et al., JAMA Neurology, 2019)

Two important effects correlated with patient response: indirect frequency modulation and fragmentation



Characterized by a significant change in the frequency content of the seizure pattern

Fragmentation



Characterized by the seizure progression pattern breaking up into fragments, over the course of RNS treatment

(Kokkinos et al., JAMA Neurology '19)

Need computational tools to *quantitatively* evaluate the evolution of seizures: this requires automated segmentation and characterization

# **An Automated Configurable Seizure Segmentation Tool** for Tracking the Evolution of Seizures

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## Methods

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Seizure Control Among Patients With Focal Epilepsy." JAMA neurology (2019).