Save Step 1: Characterization Step 2: Synthesis Step 3: Analysis 100 Synthetic Data Select File D:\example data\LFP BLA gamma SynDa 80 **Review Settings** Load rue positive rate (Hz) 8 Pre-selected Bounds True positive rate 60 Lower Bound θL Default O Specify: 23.72 µV 1.41 σ Default Specify: 23.72 µV Upper Bound θU 1.41 σ 6 40 Time ( $<\theta$ L) 0.515 % False Peak Rate 12.93 Hz 50 % ROC Time (> $\theta$ U) 0.485 % True Peak Rate 12.91 Hz 50 % Random TP rate = FP rate (Hz) 20 Select Bounds Maximum Youden's index Youden's index in Hz **Detection Performance and ROC Curve** Operating point 50 Number of Thresholds Default Specify: 20 60 80 40 100 0 False positive rate (%) Normalize Evaluate Detect on 
Amplitude peak Amplitude 0.6 r Conditional Probability Detection Threshold 1 z-score False peaks Given a Detection Intermediate peaks > the Threshold 0.5 րուսորմուրուարուարուար True peaks 160 194.8 µV 120 Detection threshold 11.8 % False (FDR) density (Hz/µV) False Positive Rate 0.825 Hz 0 % Intermediate 10 10 20 30 40 50 60 70 80 90 100 True (PPV) 88.2 % 0.3 Results Preselected bounds are calculated. Rate 0.2 Upper bound is changed from 1.1  $\sigma$  to 1.41  $\sigma$ Detecting on amplitude peak. 0.1 Optimal threshold: Maximum Youden: 44.1 µV Maximum Youden (in Hz): 44.1 µV 50 100 150 200 Detection threshold: 54.51 µV, False positive rate: 6.383 % Amplitude peak (µV)