Sieg, Tonndorf & Ruggero's paper focuses on the spatial distribution of probe-frequency-induced suppression (SFE), which is a phenomenon that occurs when a second tone is added to a stimulus tone in a certain frequency range. The paper discusses how SFE changes with probe frequency and frequency position, and how these changes can be used to map out the spatial distribution of SFOAE generators in the cochlea.

### Abstract

When the cochlea is stimulated with a probe (single-frequency) tone it generates an otoacoustic emission (OAE) at the stimulus frequency. A second tone (the suppressor tone) is added to the probe, the second tone acts mainly as a suppressor, reducing the effective strength of the probe tone. We test the STR mapping method and its assumptions about the effect of the suppressor tone by applying it to an NTR mapping. Our model can determine the null responses of an axis- and linear active, cochlear model. Our strategy is to compare the pattern of SFOAE generators estimated by straining the STR method with the actual pattern of generators within the model.

### Strategy for Testing the STR Method

We test the STR mapping and its assumptions about the effect of the suppressor tone by applying it to an NTR mapping. Our model can determine the null responses of a linear, active, cochlear model. Our strategy is to compare the pattern of SFOAE generators estimated by straining the STR method with the actual pattern of generators within the model.

### Understanding the Test Results

How are we to understand these (null) results for suppressor-based STR mapping? The mapping work ad not reflect breakthroughs in our key assumptions (based on equation in the second panel): The “suppressor” tone must be kept at a specific frequency in the model. Once again, the model allows us to see how is going. The other part of the model supports the original SFOAE generators (G_{sfoae}) al- fow to reduce the size of the frequency suppressor- ing component that would otherwise be present (\%). For near-probe suppressor, the suppmaker emission is tested only (largely because of phase- lock, nonlinearity, the magnitude of the phase-lock composition [SFOAE component (SFOE) 2009]), Tal- mage et al.'s work shows that much of the residual emission comes from the basal region, which clearly opposes the actual SFOE (familiar). For higher-frequency suppressors, however, the induced emissions stand out the resonances—small emissions dominate the overall suppression and change the basics of the STR method.  

### Test Results

We test the STR mapping method and its assumptions about the effect of the suppressor tone by applying it to a SHRU mapping. Our model can determine the null responses of a linear, active, cochlear model. Our strategy is to compare the pattern of SFOAE generators estimated by straining the STR method with the actual pattern of generators within the model.

### Understanding the Test Results

How are we to understand these (null) results for suppressor-based STR mapping? The mapping work ad not reflect breakthroughs in our key assumptions (based on equation in the second panel): The “suppressor” tone must be kept at a specific frequency in the model. Once again, the model allows us to see how is going. The other part of the model supports the original SFOAE generators (G_{sfoae}) al- fow to reduce the size of the frequency suppressor- ing component that would otherwise be present (\%). For near-probe suppressor, the suppmaker emission is tested only (largely because of phase- lock, nonlinearity, the magnitude of the phase-lock composition [SFOAE component (SFOE) 2009]), Tal- mage et al.'s work shows that much of the residual emission comes from the basal region, which clearly opposes the actual SFOE (familiar). For higher-frequency suppressors, however, the induced emissions stand out the resonances—small emissions dominate the overall suppression and change the basics of the STR method.