Glottaltopograph (GTG) analyze tool, Version 1.0 (2013)

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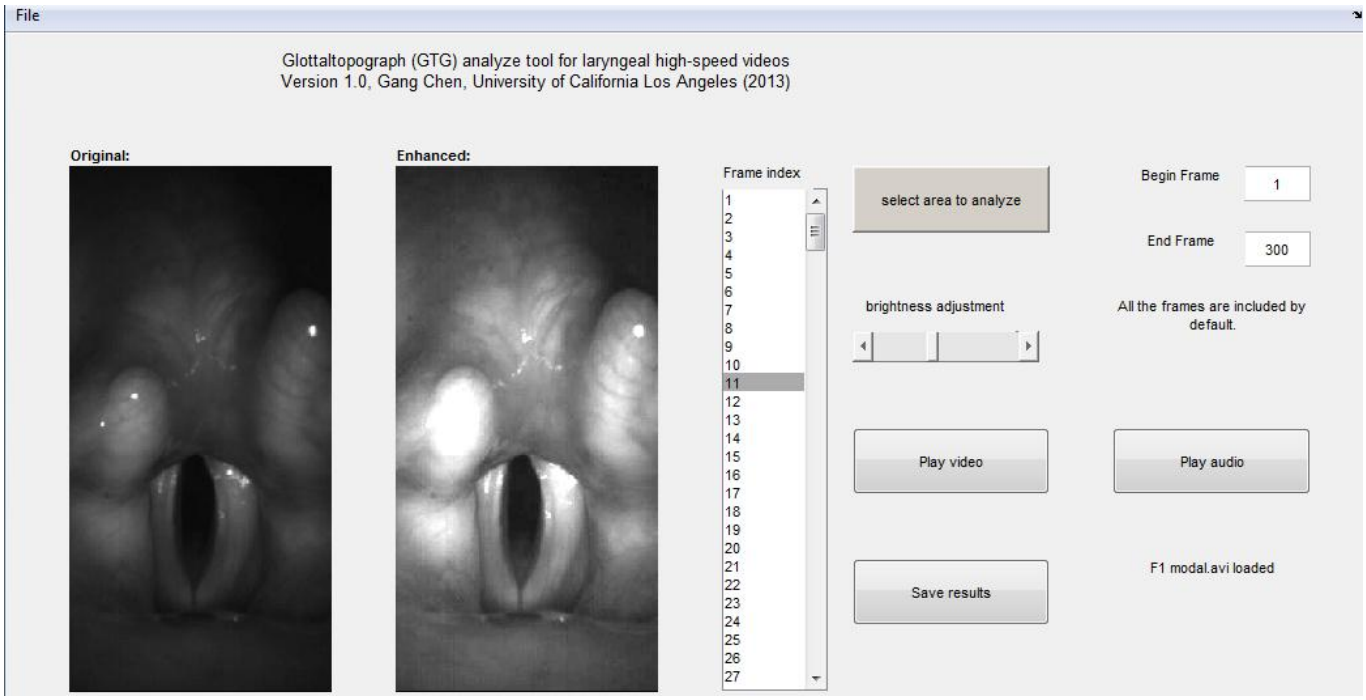
Glottaltopography is a method to analyze high-speed laryngeal videos. The method is described in this paper: Gang Chen, Jody Kreiman, Abeer Alwan, "The glottaltopogram: a method of analyzing high-speed images of the vocal folds", Computer Speech and Language, 2014, in press. Glottaltopography reveals unsynchronized vocal fold vibration patterns that might be perceptually important in clinical settings.



Buttons:

Click on “File”-> “Load” to read a high speed video file.

Brightness adjustment: adjust the brightness of the video to enhance the contrast between glottal/non-glottal regions

Begin Frame/End Frame: set the image frame range to be analyzed. All the frames in the video are included by default.

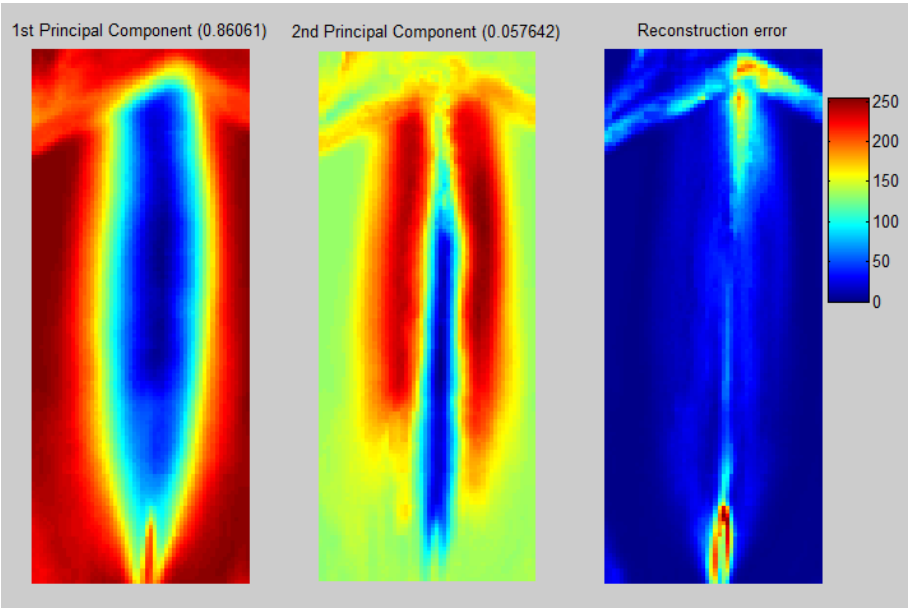
Select area to analyze: manually select a rectangular area in the enhanced image to analyze. Ideally, this area should include the vibrating glottal region and be as small as possible. Surrounding regions such as epiglottis should be excluded if possible.

Play video: play the loaded high speed video (25 frames/sec by default).

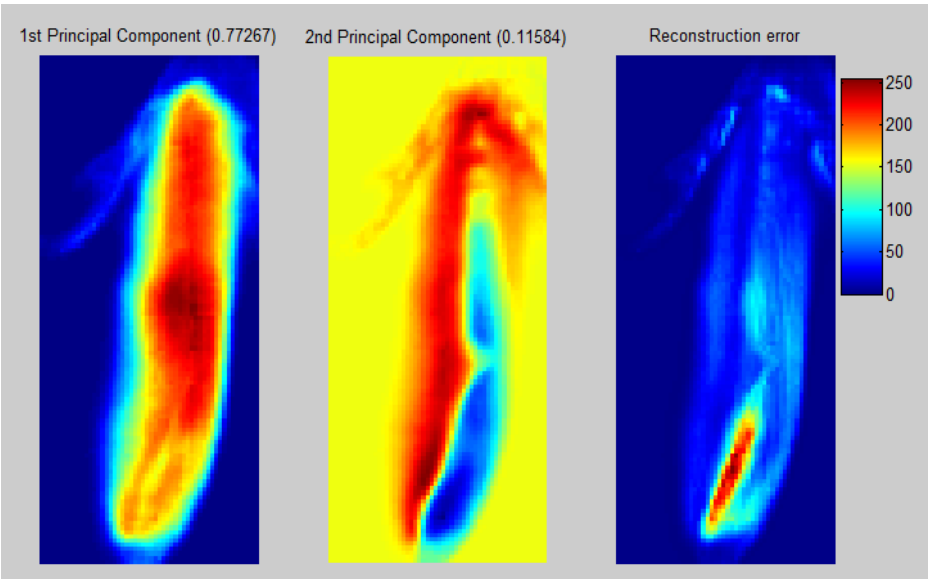
Play Audio: play the corresponding audio file.

Buttons cont'd

Save results: save the analysis results in the a .mat file. Results include
"PC1" and "PC2": the first two principal component coefficients
"Weight": variance accounted for by principal components
"error": reconstruction error
"adjMov": the enhanced video.



Symmetric patterns indicates symmetric vocal fold vibrations



Asymmetric patterns indicates asymmetric vocal fold vibrations