

ASA Fall 2024

View Abstract

CONTROL ID: 4162756**TITLE:** Reconsidering the formant correction formula in VoiceSauce**AUTHORS (FIRST NAME, LAST NAME):** Yuan Chai¹, Patricia A. Keating²**INSTITUTIONS (ALL):** 1. Linguistics, University of Washington, Seattle, WA, United States.
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Abstract (200 words): VoiceSauce (Shue et al., 2011) is an acoustic signal analysis software widely used for analyzing voice quality for various purposes (e.g. linguistic phonation acoustics: Keating et al., 2023; articulatory correlates: Wu & Zhang, 2023; speech disorder: Asiaee et al., 2022; singing: Meireles, 2016). One of the voice quality measurements provided by VoiceSauce is the amplitude difference between the first and second harmonics (H1–H2), a measurement widely used as a proxy for the degree of constriction of the vocal folds. The built-in formant correction formula (Iseli et al., 2007) in VoiceSauce enables users to remove the amplifying effect of vowel formants on harmonic energy, and consequently compare the harmonic energy across different vowel qualities. However, we found that the formant correction formula is unsuitable for correcting harmonics for formants much lower than the harmonic frequency. Such a correction will result in a large boost in the corrected harmonic energy. In this tutorial, we will demonstrate the rationale and problems of the formant correction formula used in VoiceSauce, how to modify the formant correction formula in VoiceSauce, and how to add additional harmonic parameters to VoiceSauce.

CURRENT TECHNICAL COMMITTEE: SPEECH COMMUNICATION**CURRENT SPECIAL SESSION:** Students only: Student Led Tutorials**PRESENTATION TYPE:** Invited**PRESENTER:** Yuan Chai**AWARDS:****Additional Comments:** (none)**PACS Numbers:** 43.70.Fq**Author Disclosure 3:** Early Career: 5 years from highest degree (2019, 2020, 2021, 2022,2023)**AUTHORS (ADDRESS & EMAIL):****Name:** Yuan Chai**Address 1:** Department of Linguistics University of Washington**Address 2:** Guggenheim Hall 4th Floor Box 352425**City:** Seattle**State:** WA**Postal Code/Zip:** 98105**Country:** United States**E-mail:** yuanchai@uw.edu

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Product version number 4.17.4 (Build 266). Build date Tue Aug 27 08:21:59 EDT 2024. Server ip-10-236-28-163