Presenting ADA:
A Tool for Articulatory Data Analysis

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- EMA: minimally invasive technique; widely used in speech production reseach
- Multiple tools for the display and annotation of EMA data are available, but they may require external licenses or a certain level of programming skills
- Tools for making EMA data available in Praat exist, but they may require certain tweaks and the dealing with multiple channels and dimensions may be overwhelming

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- ADA: easy-to-use, fee and open-source software for post-processing, display, annotation and measurement of kinematic data
- Implemented in Python: platform-independent (Windows, Mac, Linux)

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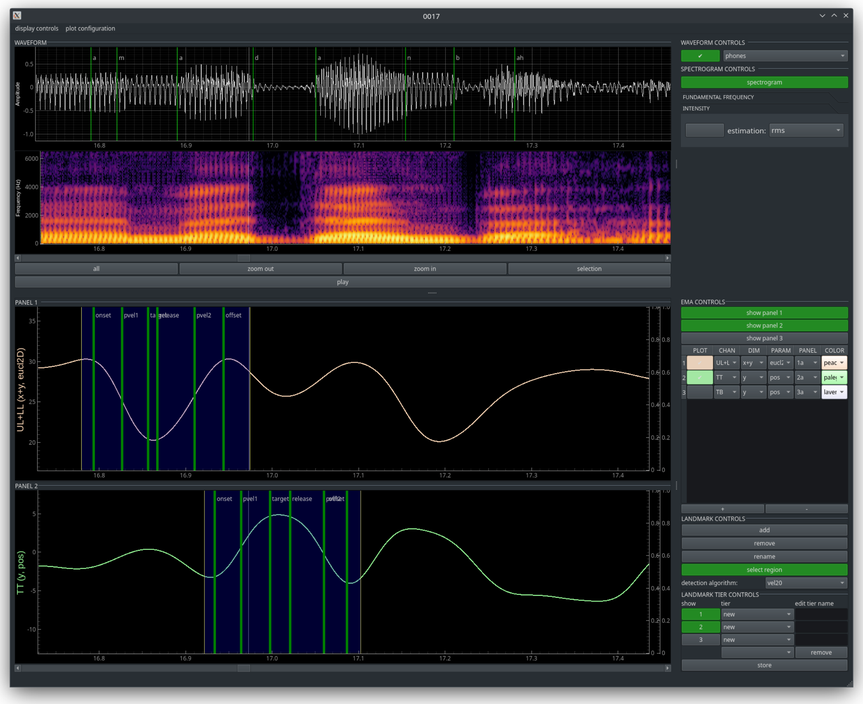
0) Pre-requisite: Python (recommended: Anaconda)
1) Download the GitHub repository
2) Installation via scripts (Windows, Mac) or manually



Display of waveform, spectrogram, f0 and intensity ● Display of EMA sensor positions and calculations ([Euclidean] distance, derivations) ● Manual annotation ● Automatic landmark detection (across panels)

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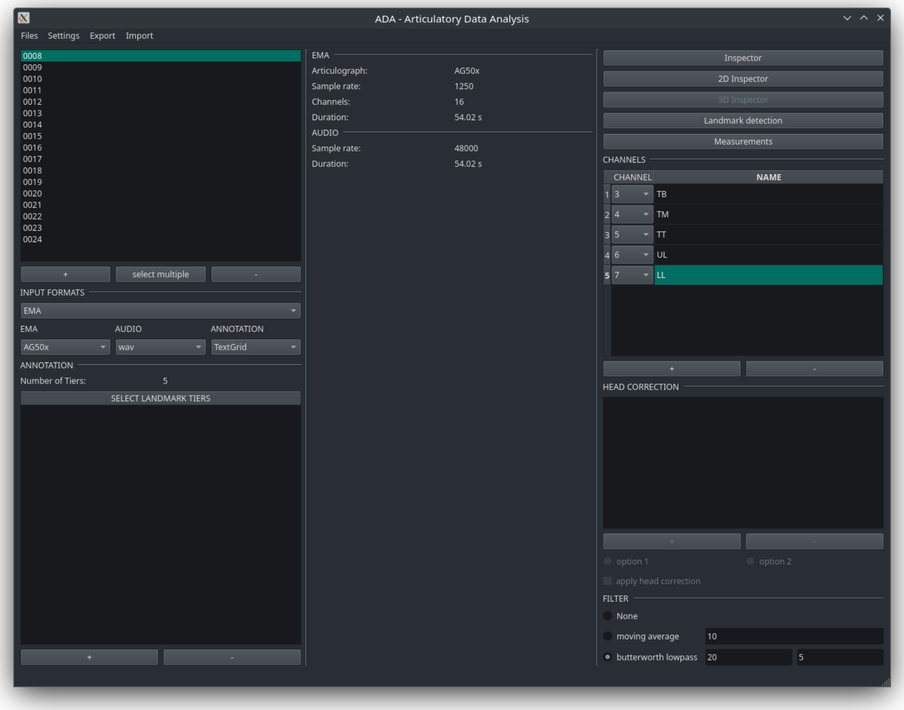


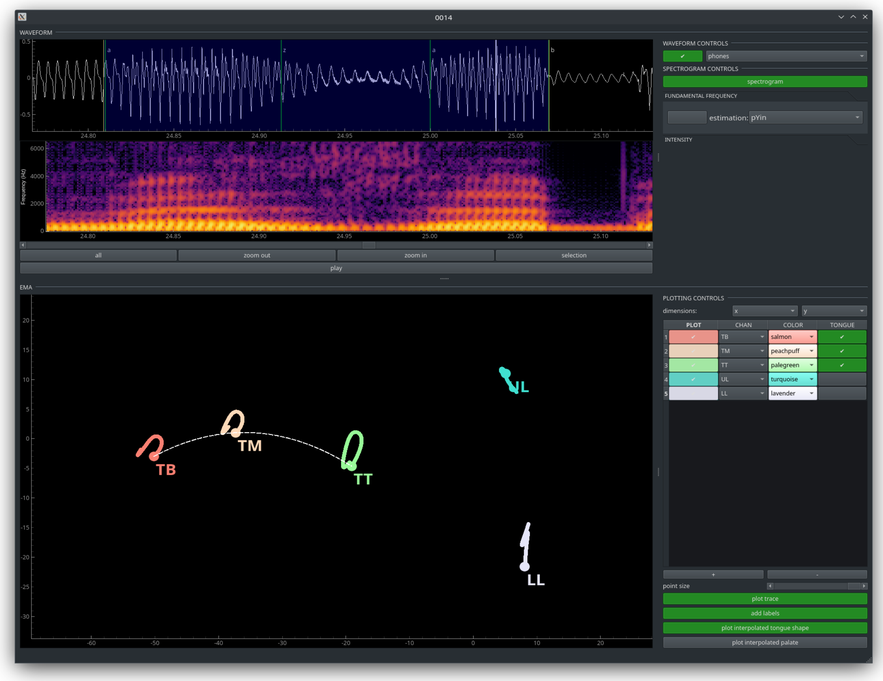
Import and export of various formats for EMA, audio and annotation data ● Two filter options for EMA data ● Automatic landmark detection across files ● Extraction of parametric and dynamic measurements

Input

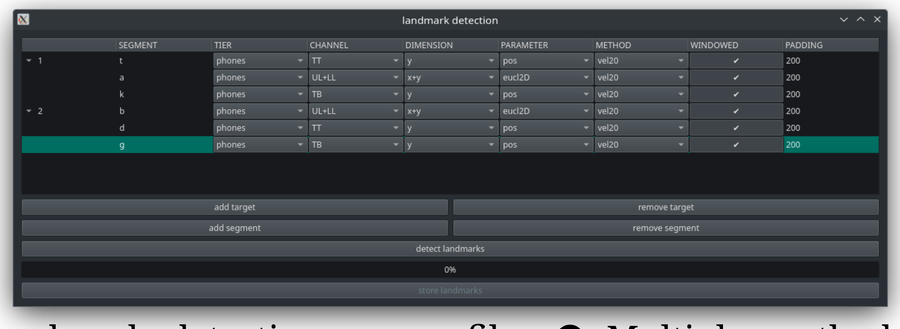
- EMA: AG50x, netcdf
- Audio: wav, mp3, ogg
- Annotation: TextGrid, json, csv

Output

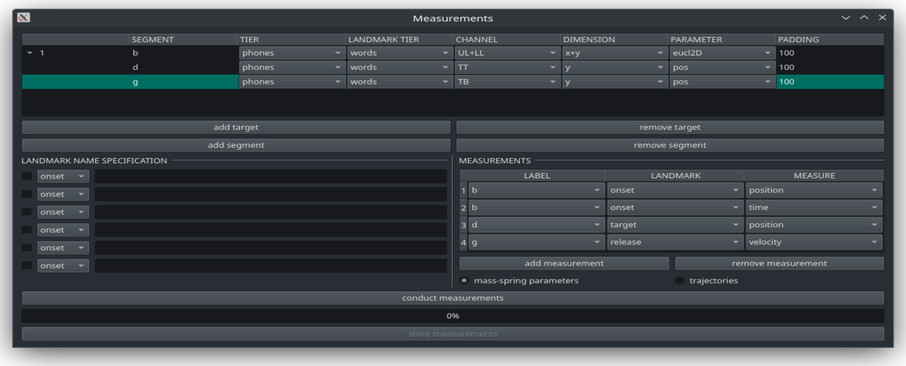
- EMA: netcdf, csv
- Annotation: TextGrid, json, csv



2D display of EMA sensor positions ● Tracking of sensor positions by mouse cursor ● Tracing of sensor positions within a ROI ● Plotting of interpolated tongue shape



Landmark detection across files ● Multiple methods (velocity, tangential velocity, acceleration) and thresholds (15%, 20%) available



Measurements across files ● Parametric: Time, position, velocity ● Dynamic: Extraction of sensor trajectories between landmarks or acoustic segments

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Versatile and accessible ● Free & open source ● Support of a wide range of data formats ● Multiple options for visualization, annotation and measurements

Future: Support of AG100/200 & NDI WAVE / VOX ● Integration of a head-correction procedure

SCAN ME

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