

ASP 109 LEAP Analysis

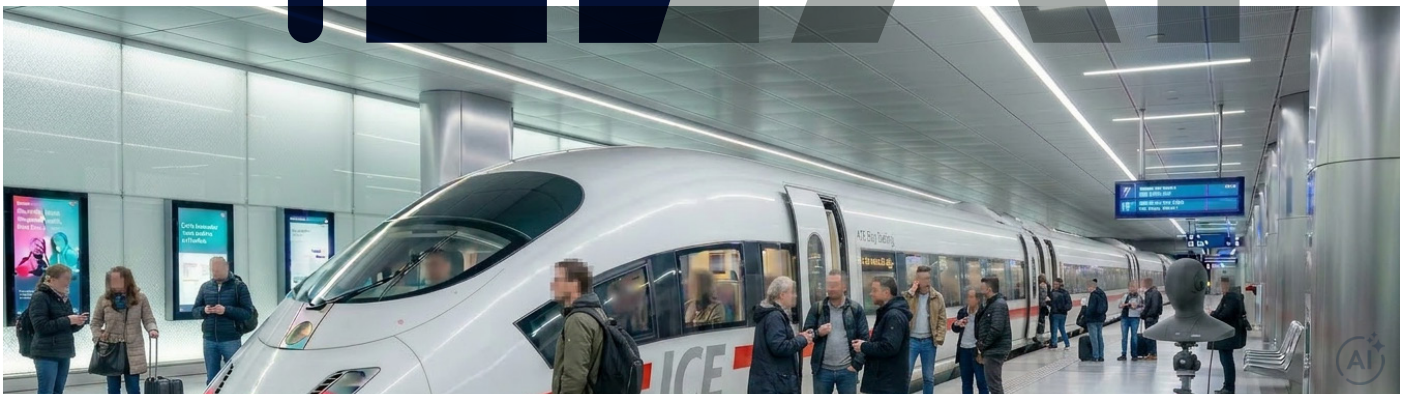
Listening Effort Prediction from Acoustic Parameters

Code 51109

The LEAP analysis of ArtemiS SUITE enables the objective prediction of perceived listening effort for binaural and diffuse-field-equalized speech signals without requiring reference signals.

Developed in collaboration with the Fraunhofer Institute for Digital Media Technology IDMT-HSA, the method assesses listening effort using Effort Scale Categorical Units (ESCU) ranging from 1 (no listening effort) to 14 (speech completely masked by interference).

The LEAP analysis is particularly well suited for applications in which only the potentially degraded speech signal is available. In addition, the LEAP analysis can also be applied in situations where a reference signal is theoretically available but is not usable in practice, for example, for public address announcements at railway stations, airports, or comparable venues.



OVERVIEW

KEY FEATURES

- › Flexible, application-oriented, and cost-effective alternative to established methods for predicting perceived listening effort
- › Objective evaluation of subjective perceptions using an ESCU scale
- › No reference signal required
- › High correlation with human perception
- › No extensive listening tests required
- › Increased efficiency and time savings through reduced measurement effort
- › Seamless integration of LEAP analyses into comprehensive workflows of ArtemiS SUITE, for example through Pool Projects (APR 010 is required), Automation Projects (APR 050 is required), Standardized Test Projects (APR 220 is required), or Metric Projects (APR 570 is required)
- › Optimally matched hardware available for acquiring binaural, diffuse-field-equalized input signals

APPLICATIONS

- › Text-to-speech (TTS) engines, such as speech synthesis systems, virtual assistants, navigation systems, and accessibility systems
- › Public address systems (real or TTS-based) used in railway stations, at airports, and at public events
- › Smartphone conversation, for example from the driver's position in a vehicle during a test drive
- › Dialog systems

LICENSES AND OPTIONS

Requirements

Code	Product Name	Characterization
50000	APR 000 APR Framework	Basis of ArtemiS SUITE
51109	ASP 109 LEAP Analysis	Prediction of the perceived listening effort
At least one of the central projects of ArtemiS SUITE—Pool Project, Automation Project, Standardized Test Project—or a Metric Project is required and must be licensed.		

Optional Features

Code	Product Name	Characterization
50010	APR 010 Pool Project	Central project of ArtemiS SUITE
50050	APR 050 Automation Project	Central project of ArtemiS SUITE
50220	APR 220 Standardized Test Project	Central project of ArtemiS SUITE
50570	APR 570 Metric Project	Project of ArtemiS SUITE

Hardware (Recommended)

Code	Product Name	Characterization
3324	SQuadriga III	Mobile recording and playback system
3302	SQobold	Mobile recording and playback system
3322	BHS II	Binaural headset for SQuadriga III and SQobold
Our modular HEAD/ab systems, such as those used in combination with the HSU III.2 artificial head (see the HEAD/ab and HSU data sheets)		

Contact

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