IDMT-SMT-Audio-Effects

Version 1.0, 2010

An audio database for automatic effect detection in recordings of electric guitar and bass

Fraunhofer IDMT

Database content

The IDMT-SMT-Audio-Effects database is a large database for automatic detection of audio effects in recordings of electric guitar and bass and related signal processing.

- The overall duration of the audio material is approx. 30 hours.
- The dataset consists of 55044 WAV files (44.1 kHz, 16bit) with single recorded notes:
  - 20592 monophonic bass notes
  - 20592 monophonic guitar notes
  - 13860 polyphonic guitar sounds
- Overall, 11 different audio effects are incorporated:
  - feedback delay
  - slapback delay
  - reverb
  - chorus
  - flanger
  - phaser
  - tremolo
  - vibrato
  - distortion
  - overdrive
  - no effect (unprocessed notes / sounds)
- 2 different electric guitars and 2 different electric bass guitars, each with up to 3 different pick-up settings and up to three different plucking styles (finger plucked - hard, finger plucked - soft, picked) were used for recording.
- The notes cover the common pitch range of a 4-string bass guitar from E1 (41.2 Hz) to G3 (196.0 Hz) or the common pitch range of a 6-string electric guitar from E2 (82.4 Hz) to E5 (659.3 Hz).
- Effects processing was performed using a digital audio workstation and a variety of mostly freely available effect plugins.
- To organize the database, lists in XML format are used, which record all relevant information and are provided with the database as well as a summary of the used effect plugins and parameter settings.
- In addition, most of this information is also encoded in the first part of the file names of the audio files using a simple alpha-numeric encoding scheme. The second part of the file names contains unique identification numbers. This

provides an option for fast and flexible structuring of the data for various purposes.

Authors

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Reference

[1] Stein, Michael; Abeßer, Jakob; Dittmar, Christian; Schuller, Gerald: Automatic Detection of Audio Effects in Guitar and Bass Recordings. Proceedings of the AES 128th Convention, 2010.

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Contact

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