The 2008 LabROSA Supervised Chord Recognition System

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Lab **ROSA**

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Summary: Beat-synchronous chroma representations are modeled with single-Gaussian tied models and a simple transition model to recognize chords in music audio.
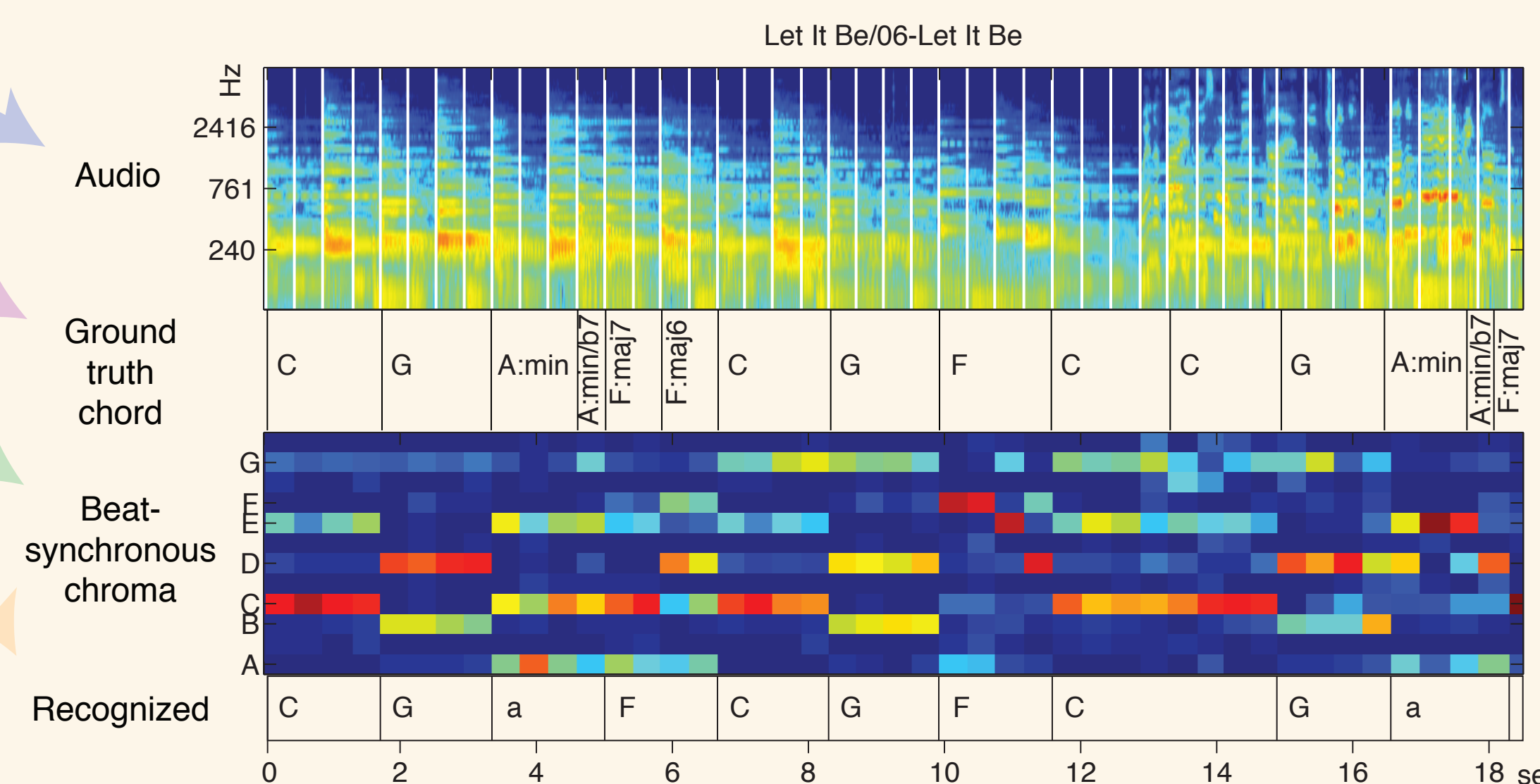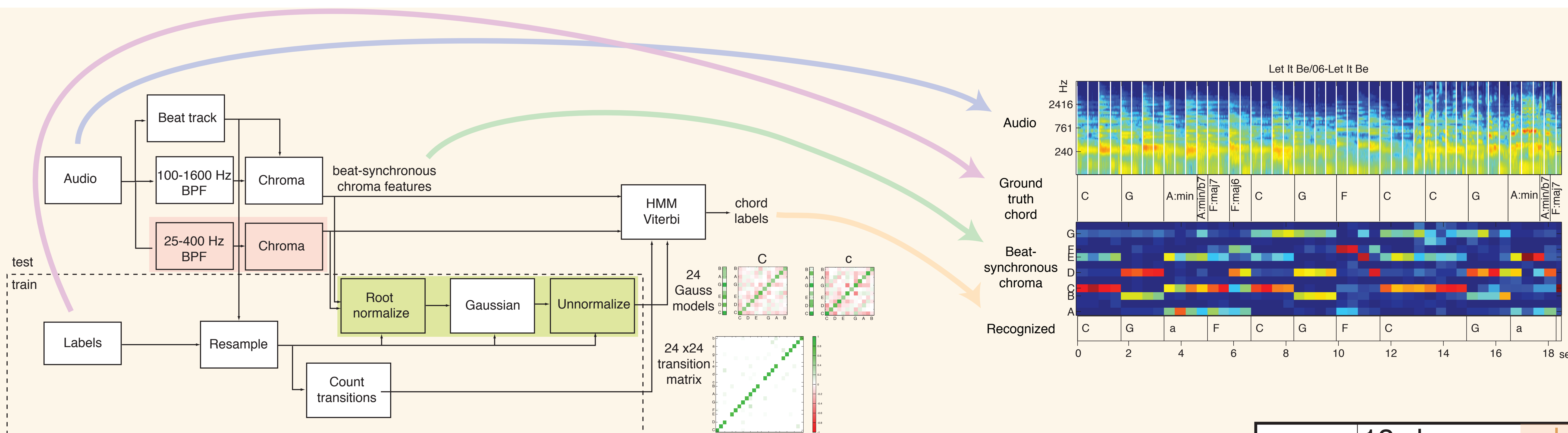
- Beat-synchronous chroma features (from Cover Song system)
  - Enhancement: augment with 25-400 Hz "bass band" chroma
- Hand-labeled ground truth (Harte Beatles data)
  reduced to 12 major and 12 minor chords
- Single full-covariance Gaussian fit to each chord
  - Enhancement: pool data for one Major, one minor model
- Simple transition matrix by training data counts

- Frame-level accuracy results:

- MIREX Eval result: **0.66**
  - as good as best "pre-trained" system (Bello & Pickens, 0.66)
  - second to Uchiyama et al. in "train-test" (**0.72**)
- Future
  - key-relative transition matrix
  - better duration model

	12 chroma	+bass
indep. models	0.539	0.552
pooled models	0.556	0.578

MATLAB code to run this system is available at:
http://labrosa.ee.columbia.edu/projects/chords/