

Beat Tracking and Tempo detection

References

Leigh M. Smith

June 25, 2011

References

- Bello, J. P., L. Daudet, S. Abdallah, C. Duxbury, M. Davies, and M. Sandler (2005, September). A tutorial on onset detection in music signals. *IEEE Transactions on Speech and Audio Processing* 13(5), 1035–47.
- Brown, J. C. (1993). Determination of the meter of musical scores by autocorrelation. *Journal of the Acoustical Society of America* 94(4), 1953–7.
- Clarke, E. F. (1987). Levels of structure in the organization of musical time. *Contemporary Music Review* 2(1), 211–38.
- Coath, M., S. Denham, L. M. Smith, H. Honing, A. Hazan, P. Holonowicz, and H. Purwins (2009). Model cortical responses for the detection of perceptual onsets and beat tracking in singing. *Connection Science* 21(2), 193—205.
- Cont, A. (2009). A coupled duration-focused architecture for realtime music to score alignment. *IEEE Transaction on Pattern Analysis and Machine Intelligence*.
- Dannenberg, R. B. (1991, November). Recent work in music understanding. In *Proceedings of the 11th Annual Symposium on Small Computers in the Arts*, Philadelphia, pp. 9–14. SCAN.
- Davies, M. E. P. and M. D. Plumbley (2007). Context-dependent beat tracking of musical audio. *IEEE Transactions on Audio, Speech and Language Processing* 15(3), 1009–20.

- Desain, P. (1992). A (de)composable theory of rhythm perception. *Music Perception* 9(4), 439–54.
- Desain, P. and S. de Vos (1990). Autocorrelation and the study of musical expression. In *Proceedings of the International Computer Music Conference*, pp. 357–360. International Computer Music Association.
- Desain, P. and H. Honing (1994). Foot-tapping: A brief introduction to beat induction. In *Proceedings of the International Computer Music Conference*, pp. 78–9. International Computer Music Association.
- Desain, P. and H. Honing (2001). Modeling the effect of meter in rhythmic categorization: Preliminary results. *Japanese Journal of Music Perception and Cognition* 7(2), 145–56.
- Dixon, S. (2001). Automatic extraction of tempo and beat from expressive performances. *Journal of New Music Research* 30(1), 39–58.
- Dixon, S. (2007). Evaluation of the audio beat tracking system BeatRoot. *Journal of New Music Research* 36(1), 39–50.
- Dixon, S., F. Gouyon, and G. Widmer (2004). Towards characterisation of music via rhythmic patterns. In *Proceedings of the International Symposium on Music Information Retrieval*.
- Eck, D. (2006). Beat induction with an autocorrelation phase matrix. In M. Baroni, A. R. Addessi, R. Caterina, and M. Costa (Eds.), *Proceedings of the 9th International Conference on Music Perception and Cognition (ICMPC)*, Bologna, Italy, pp. 931. SMPC and ESCOM.
- Ellis, D. P. W. (2007). Beat tracking by dynamic programming. *Journal of New Music Research* 36(1), 51–60.
- Goto, M. and Y. Muraoka (1994). A beat tracking system for acoustic signals of music. In *Proceedings of ACM Multimedia*, San Francisco, CA., pp. 365–72.
- Jones, M. R. and M. Boltz (1989). Dynamic attending and responses to time. *Psychological Review* 96(3), 459–91.
- Klapuri, A. P., A. J. Eronen, and J. T. Astola (2006). Analysis of the meter of acoustic musical signals. *IEEE Transactions on Audio, Speech and Language Processing* 14(1), 342–55.

- Large, E. W. and J. F. Kolen (1994). Resonance and the perception of musical meter. *Connection Science* 6(2+3), 177–208.
- Lerdahl, F. and R. Jackendoff (1983). *A Generative Theory of Tonal Music*. Cambridge, Mass: MIT Press. 368p.
- Longuet-Higgins, H. C. and C. S. Lee (1982). The perception of musical rhythms. *Perception* 11, 115–28.
- Longuet-Higgins, H. C. and C. S. Lee (1984). The rhythmic interpretation of monophonic music. *Music Perception* 1(4), 424–41.
- Miller, B. O., D. L. Scarborough, and J. A. Jones (1989). Rule-based versus constraint satisfaction approaches to the perception of meter in music. In *Proceedings of the Second International Workshop on Artificial Intelligence and Music*, Detroit, Michigan, pp. 26–35. IJCAI-89.
- Ohya, K. (1994). A rhythm perception model by neural rhythm generators. In *Proceedings of the International Computer Music Conference*, pp. 129–30. International Computer Music Association.
- Palmer, C. and C. L. Krumhansl (1990). Mental representations for musical meter. *Journal of Experimental Psychology - Human Perception and Performance* 16(4), 728–41.
- Pampalk, E., S. Dixon, and G. Widmer (2003). Exploring music collections by browsing different views. In *Proceedings of the International Symposium on Music Information Retrieval*, pp. 201–8. Citeseer.
- Pampalk, E., A. Rauber, and D. Merkl (2002). Content-based organization and visualization of music archives. In *Proceedings of the tenth ACM international conference on Multimedia*, pp. 570–579. ACM.
- Papadopoulos, H. and G. Peeters (2008). Simultaneous estimation of chord progression and downbeats from an audio file. In *Acoustics, Speech and Signal Processing, 2008. ICASSP 2008. IEEE International Conference on*, pp. 121–124. IEEE.
- Patel, A. D. (2008). *Music, Language, and the Brain*. Oxford University Press. 513p.

- Peeters, G. (2007). Template-based estimation of time-varying tempo. *EURASIP Journal on Advances in Signal Processing* (67215), 14 pages. doi:10.1155/2007/67215.
- Scheirer, E. D. (1998). Tempo and beat analysis of acoustic musical signals. *Journal of the Acoustical Society of America* 103(1), 588–601.
- Schloss, A. W. (1985). *On the Automatic Transcription of Percussive Music—From Acoustic Signal to High-Level Analysis*. STAN-M-27, Dept. Hearing and Speech, Stanford University, Stanford, CA.
- Shmulevich, I. and D.-J. Povel (2000). Measures of temporal pattern complexity. *Journal of New Music Research* 29(1), 61–9.
- Smith, L. M. (1996). Modelling rhythm perception by continuous time-frequency analysis. In *Proceedings of the International Computer Music Conference*, pp. 392–5. International Computer Music Association.
- Smith, L. M. and H. Honing (2006). Evaluating and extending computational models of rhythmic syncopation in music. In *Proceedings of the International Computer Music Conference*, pp. 688–91. International Computer Music Association.
- Smith, L. M. and H. Honing (2008). Time-frequency representation of musical rhythm by continuous wavelets. *Journal of Mathematics and Music* 2(2), 81–97.
- Tchamitchian, P. and B. Torr sani (1992). Ridge and skeleton extraction from the wavelet transform. In M. B. Ruskai (Ed.), *Wavelets and Their Applications*, pp. 123–51. Boston, Mass.: Jones and Bartlett Publishers.
- Todd, N. P. (1994). The auditory “primal sketch”: A multiscale model of rhythmic grouping. *Journal of New Music Research* 23(1), 25–70.
- Todd, N. P. M., D. J. O’Boyle, and C. S. Lee (1999). A sensory-motor theory of rhythm, time perception and beat induction. *Journal of New Music Research* 28(1), 5–28.
- Toiviainen, P. (1998). An interactive MIDI accompanist. *Computer Music Journal* 22(4), 63–75.

Tzanetakis, G. and P. R. Cook (2002). Musical genre classification of audio signals. *IEEE Transactions on Speech and Audio Processing* 10(5), 293–302.

Yeston, M. (1976). *The Stratification of Musical Rhythm*. New Haven: Yale University Press. 155p.