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“From musical structure to neural network synchronization: Neural correlates of musical form perception”

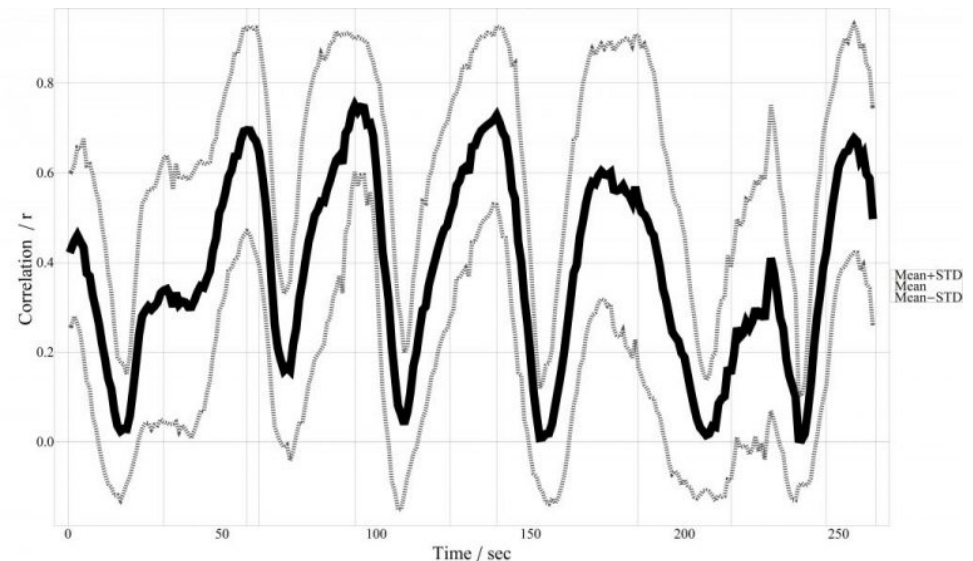
When listening to a Techno or Electronic Dance Music piece the musical form is governed by building up and releasing tension. This happens a hundred times in a Techno night. The amount and density of musical sounds increase up to a climax, where the bass drum comes in in a four-to-the-floor beat.

The human brain shows an increased synchronization of neurons mainly in the gamma-band of an EEG signal when the tension is increased. After the climax the synchronization decreases tremendously, only to show increasing synchronization with the next built-up of tension.

Below is a figure of the change of mean brain synchronization within a Techno piece over time. The curve follows very precisely the musical form of in- and decrease of musical tension:

[1] Rolf Bader: Music - Acoustics - Psychology - Ethnology Brain Synchronization <https://rolfbader.de/brain-synchronization>

[2] Hartmann, L.: Neural synchronization of musical large-scale form. An EEG study. Proc. Mtgs. Acoust. 22, 035001 (2014); <https://doi.org/10.1121/2.0000042>



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