

Introduction of an automatic spike sorter, Clust016; its features and performance evaluation.

(自動化スパイクソータ Clust016 の特徴とその性能評価)

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Extracellular multiple single-unit recording has frequently been used to investigate neuronal interactions and information representation. To obtain multiple single-unit recording data from signals recorded with multichannel microelectrodes, we have developed an automatic spike sorter, Clust016. We introduce here the features of our spike sorter; spike detection with an elastic template, decomposition of partially overlapping spikes, burst detection, hierarchical clustering with statistical tests, capability of tracking spike amplitude changes. The performance was evaluated by using simultaneously recorded intracellular/extracellular data sets provided by the contribution for the "Collaborative Research in Computational Neuroscience (CRCNS)" program from Gyorgy Buzsáki lab, Rutgers University (URL: <http://crcns.org/>). An application of Clust016 to recordings from inferior temporal cortex of macaque monkeys with multichannel microelectrode will be presented.

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