THE EUROPEAN EEG DATABASE AS A NEW STANDARD FOR SCIENTIFIC ANALYSES OF LONG-TERM EEG DATA

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Purpose: Access to highquality long-term EEG recordings of epilepsy patients is often limited to research groups. The use of preselected, discontinuous EEG data can lead to false estimations of the performance of algorithms e.g. for seizure detection or prediction. We here report on a new European Database offering high-quality surface and intracranial EEG data for EEG and epilepsy research
Methods: As part of the EU-sponsored EPILEPSIAE project (Evolving Platform for Improving Living Expectation of Patients Suffering from IctAl Events, Grant 211713), the University Hospitals Freiburg, Germany, Hopital Pitié-Salpêtrière in Paris, France, and the University Hospital Coimbra, Portugal have built up a database with long-term intracranial and surface EEG recordings of at least 4 days recording duration including 5 clinically manifest seizures.
Results: Currently, the EU database contains 275 long-term recordings from epilepsy patients, including 50 with intracranial recordings with up to 122 channels.
The datasets provide EEG data for an average recording time of 150 hours at sample rates between 250 Hz and to 2500 Hz. EEG recordings have undergone standardized annotation with details on the timing, patterns and evolution of seizures. Data files are accompanied by clinical patient information and MR imaging data.
Conclusion: The European EEG database presently is the by far largest and most comprehensive database for human surface and intracranial EEG recordings. It allows for the assessment of large patient groups and contains datasets which allow for separate test and training of algorithms within given patients. The database is accessible to the research community under www.epilepsy-database.eu.