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EEG Signal based Sleep Detection using PCA and Neural Network

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*Abstract –***The electroencephalogram (EEG) is the most common tool used in sleep research. This unit describes the methods for recording and analyzing the EEG. Detailed protocols describe recorder calibration, electrode application, EEG recording, and computer EEG analysis with power spectral analysis. Computer digitization of an analog EEG signal is discussed, along with EEG filtering and the parameters of fast Fourier transform (FFT) and power spectral analysis. Sample data are provided for a typical night's analysis of EEG during NREM (non-REM) and REM sleep.**

Keywords – **Electroencephalogram (EEG), Fast Fourier Transform (FFT), Power Spectral Analysis, NREM and REM.**