

PERFORMANCE COMPARISON OF STATE – OF – THE – ART ALGORITHMS FOR EOG ARTEFACTS REMOVAL FROM EEG SIGNALS

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Abstract:Electrooculogram (EOG) artefact in Electroencephalogram (EEG) can cause difficulty in reading neural activity, such as epileptic spikes. Signal processing methods for EOG artefact removal include: adaptive filtering with referenced EOG signal, and blind separation without a reference signal.

The thesis compare state – of – the – art algorithms of these two methods using both simulated and real data.

RRMSE (Relative Root Mean Squared Error) and the power ratio of artefact to signal are used as performance measures in the comparison.

Keywords: *EEG, EOG, artifact removal, adaptive filtering, blind separation.*