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# Recovery of early neural spikes from stimulation electrodes using a DC-coupled low gain high resolution data acquisition system

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## Highlights

- A low gain (10x) DC neural recording with 24-bit ADC was proposed for wide-input dynamic range
- Immediate artifact recovery as early as 2 ms after the stimulation from the stimulating electrode
- Successful demonstration planar-type microelectrode arrays and primary hippocampal neurons

## Abstract

Background: Neural responses to electrical stimulation provide valuable information to probe and study the network function. Especially, recording neural responses from the stimulated site provides improved neural interfacing method. However, it is difficult to measure short-delayed responses at the stimulated electrode due to the saturation of the amplifier after stimulation which is called “stimulus artifact”. Despite the advances in handling stimulation artifacts, it is still very challenging to deal with the artifacts if one tries to stimulate and recording from the same electrode.

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