고려대학교 뇌공학과 KOREA UNIVERSITY

뇌신호처리연구실

National Research Foundation of Korea

Invited Seminar

The non-neuronal signal in functional MRI data and its correction.

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시간: 2022년 08월 17일 (수) 오전 11시

장소: 고려대학교 과학도서관 611호 & 줌 (Meeting ID: 899 5142 0563, Passcode: EYZC4YC1Pc)

Abstract

Neuronal activation can be measured using magnetic resonance imaging (MRI)-based blood oxygenation level dependent (BOLD) contrast. However, BOLD contrast is known to be impacted by non-neuronal signal sources. The physiologic respiratory and cardiac signals have been identified as a primary non-neuronal source of variance. The head motion during fMRI data acquisition is known to be not only non-neuronal signal but also the bias source to produce the signal fluctuation to deflect the statistical result.

The seminar has two parts. 1) The physiologic signals reflected on fMRI data is discussed, and the method to remove the physiologic components without the external physio-measures is presented. 2) The head motion is injected on ex-vivo brain phantom in volume-and slice-wisely using a home built sequence, and the slicewise-motion correction method is presented to be compared to a conventional volume motion correction method.

주최: 고려대학교 뇌공학과 뇌신호처리 연구실 (http://bspl.korea.ac.kr)

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