Task based functional magnetic resonance imaging

Functional magnetic resonance imaging (fMRI) based on blood-oxygen-level dependent (BOLD) techniques has been widely used to study the functional activities and cognitive behaviors of the brain based on the induced stimulus by tasks.

As task-based fMRI is widely adopted to identify brain regions that are functionally involved in a specific task performance, while resting state fMRI is used to explore the intrinsically functionally segregation or specialization of brain regions/networks, such differences could inspire better understanding for the organization and origination of the brain cognitive functioning. Also, determining whether participants are focusing on task during task scan or being rest during resting state scan could be very crucial for the further analysis.