Comparative study

1. Computational cost

Computational cost analysis varying: mode order

1. Application: brain functional region segmentation

Może też trochę o segmentacji – ale to też jest wcześniej

Zastosowanie metod/y (PCA i opcjonalnie ICA)

* 1. Functional analysis of the obtained maps: model order, thresholding, statistics of slice comparison

Opisać trochę skrypt w matlabie – smoothing, thresolding,

The value of the threshold was emiprically set by performing some tests with different values, but initially based on a value 2 established in a paper [reference].

* 1. Default mode network

The default mode network is a network of interacting brain regions known to have activity highly correlated with each other and distinct from other networks in the brain [wikipedia]. The default mode network displays more activity during rest than during task which means when a person is not focused on the outside world and the brain is at [wakeful](https://en.wikipedia.org/wiki/Wakefulness) rest, such as during daydreaming and [mind-wandering](https://en.wikipedia.org/wiki/Mind-wandering), but it is also active when the individual is thinking about others, thinking about themselves, remembering the past, and planning for the future. The netowrk activates „by default” when a person is not involved in a task.

Dysfunctional default mode network has been observed in various mental disorders, including epilepsy. For example simultaneous recording of electroencephalogram and functional MRI (EEG–fMRI) is a powerful tool for localizing epileptic networks via the detection of hemodynamic changes correlated with interictal epileptic discharges (IEDs). fMRI can be used to study the long-lasting effect of epileptic activity by assessing stationary functional connectivity during the resting-state period (especially, the connectivity of the default mode network). Temporal lobe epilepsy (TLE) and idiopathic generalized epilepsy (IGE) are associated with low responsiveness and disruption of DMN activity.

No i tutaj jak wół opisać co to jest dmn – trzeba po prostu skleić treści z różnych artkułów

Opis zastosowania

* 1. Functional network in a memory task (epileptic, healty)