The at-risk mental state for psychosis (ARMS) and the first-episode of psychosis (FEP) have been associated with structural brain abnormalities that could aid in the individualized early recognition of psychosis. In literature, there are mentioned consistent grey-matter (GM) reductions both in ARMS subjects and FEP patients when compared to controls. Furthermore, GM alterations in the temporal regions were causally related to the severity of psychotic symptoms while neuroanatomical alterations in temporal regions may underlie the clinical onset of psychotic symptoms Transforming the grey-matter (GM) morphology from brain MRI scans into spatial series we compare the cortical structure surface in three groups. Previous study reported outstanding results on complexity of brain folding, cortical surface structure in Alzheimer's disease and aging.

The conversion of images into sequences for applications of time-series analysis tools has been utilized for solving several problems in image data mining. As spatial series of the GM morphology are inherently complex, chaos and nonlinear dynamics analyses of these series are therefore suitable mathematical techniques for extracting their informative statistical properties. Moreover, chaos and nonlinear dynamics have been increasingly reported as effective computational methods for analyzing complex data in medicine and biology. The aim of the study is primarily to introduce the spatial-series extraction from sMRI and the non-linear features in schizophrenia identification as well. Voxel-based morphometry will be conducted with SPM12 toolbox.