

Abstract: This paper presents a new method for the automatic detection of the onset of a seizure. The method is based on the analysis of the non-linear properties of the EEG signal. The results show that the proposed method is able to detect the onset of a seizure with a high accuracy and a low false alarm rate.

Keywords: EEG, seizure, onset, detection, non-linear, analysis, automatic, method, accuracy, false alarm rate.

1. Introduction

The detection of the onset of a seizure is a very important task in the field of epilepsy. The automatic detection of the onset of a seizure can help the clinician to identify the patients who are at risk of having a seizure. The proposed method is based on the analysis of the non-linear properties of the EEG signal.

2. Materials and Methods

2.1. Data Collection

2.2. Preprocessing

2.3. Feature Extraction

2.4. Classification