

## **Heart sounds clustering using a combination of temporal, spectral and geometric features**

### **ABSTRACT**

Heart murmurs are the first sign of heart valve disorders. Several studies have been conducted in recent years to automatically differentiate normal heart sounds from heart sounds with murmurs using various types of audio features. In this study, the feasibility of using a combination of temporal, spectral and geometric features in clustering five types of physiological and pathological heart sounds is shown. Thirty six heart sound recordings comprising normal and abnormal heart sounds were collected from training CDs and online resources. The proposed combination of features exhibits a promising discriminatory power in phonocardiographic signals clustering.