

# **EMPIRICAL MODE DECOMPOSITION BASED SUPPORT VECTOR MACHINES FOR MICROEMBOLI CLASSIFICATION**

**Karim FERROUDJI, Nabil Benoudjit, Ayache Bouakaz**

**Abstract :** The classification of circulating microemboli, in the bloodstream, as gaseous or particulate matter is vital for selecting appropriate treatment for patients. Until now, Doppler techniques have shown some limitations to determine clearly the nature of circulating microemboli. The traditional techniques are largely based on the Fourier analysis. In this paper we present new emboli detection method based on Empirical mode decomposition and support vector machine using Radio Frequency (RF) signal instead of Doppler signals.

**Keywords :** classification, Microemboli, Radio Frequency signals, Empirical Mode Decomposition, ultrasound.