

**Entropy numbers of Sobolev embeddings and spectral properties of  
Schrödinger operators on manifolds**

Leszek Skrzypczak (Adam Mickiewicz University Poznań)

Sobolev embeddings of weighted function spaces of Besov-Sobolev type defined on manifolds with bounded geometry are investigated. The sufficient and necessary criteria for boundedness and compactness of the embeddings are presented. The asymptotic behaviour of entropy numbers of the embedding is calculated. Some applications to spectral theory on Schrödinger type operator are given. The basic tool for the presented theory is the characterizations of the function spaces defined on the manifolds via wavelets frames.