

Some necessary and some sufficient conditions for the compactness of the embedding of weighted Sobolev spaces

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Abstract

We give some necessary and some sufficient conditions for the compactness of the embedding of Sobolev spaces

$$W^{1,p}(\Omega, w) \rightarrow L^p(\Omega, w),$$

where w is some weight on a domain $\Omega \subseteq \mathbb{R}^n$.