

Given a domain $\Omega \subset R^d$ and two measureable functions (weights) $g, \nu : \Omega \rightarrow (0, \infty)$, the author defines the weighted Sobolev space $W_{p,g}^r(\Omega)$, and the weighted Lebesgue space $L_{q,\nu}(\Omega)$. A review is presented of the cases where one has exact estimates for the Kolmogorov n -widths of the unit ball of $W_{p,g}^r(\Omega)$ in $L_{q,\nu}(\Omega)$.

In this paper are to be found two examples of order estimates of these Kolmogorov (and linear) n -widths where Ω is a John domain and the weights g, ν are functions of distance to some h -subset of $\partial\Omega$. And also where $\Omega = R^d$ and the weights are powers of $1 + |x|$. The exact definitions and theorems are rather technical in nature.