

that if $f \in W_m^p(\Omega)$, where $\Omega \subseteq \mathbf{R}^n$ is a domain that satisfies a so-called cone condition, and $1 < p < n/m$, then $f \in L^{p^*}(\Omega)$, where $1/p^* = 1/p - m/n$. If $p > n/m$, then $f \in C(\Omega)$, and if $p = n/m$, then $f \in L^q(\Omega)$ for all $q < \infty$. (The theorem was later extended to $p = 1$ by L. Nirenberg and E. Gagliardo.)

Generalizations and refinements of this theorem are one of the main themes of the book under review. The author is especially interested in finding necessary and sufficient conditions on the domain Ω for the validity of various embedding theorems. For $p = 1$ such conditions can be given in terms of isoperimetric inequalities, relating the volume and the surface area of portions of the domain. For $p > 1$ the area has to be replaced by " p -capacity".

Another type of extension theorem is obtained if the domain is allowed to be all of \mathbf{R}^n , but embeddings into spaces $L^q(\mu)$ are considered for positive measures μ . The measures allowing such embeddings are characterized in terms of capacities. These results are in part due to D. R. Adams.

An interesting and useful chapter, written jointly with Yu. D. Burago, treats spaces of functions of bounded variation, i.e., functions whose derivatives are measures.

Generally speaking, this book is not the right choice for someone who is just trying to learn a few simple facts about Sobolev spaces. The author's taste is for completeness. He treats every conceivable aspect of his problems, which makes the book rather overwhelming for the general reader.

On the other hand, this makes the book all the more valuable as a work of reference. It is a treasure house, for example, for someone who is looking for a weird domain as a counterexample to some theorem, and for many others. Every good mathematical library should have it.

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Complex cobordism and stable homotopy groups of spheres, by Douglas C. Ravenel, Academic Press, Orlando, 1986. xix + 413 pp., \$90.00 cloth, \$45.00 paperback. ISBN 0-12-583430-6

The author has previously written [4, p. 407]: "I am painfully aware of the esoteric nature of this subject and of the difficulties faced by anyone in the past who wanted to become familiar with it." The subject in question is the topic of the book under review, namely the study of stable homotopy theory