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Autore	Pflaum Markus J
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Sommario/riassunto	The book provides an introduction to stratification theory leading the reader up to modern research topics in the field. The first part presents the basics of stratification theory, in particular the Whitney conditions and Mather's control theory, and introduces the notion of a smooth structure. Moreover, it explains how one can use smooth structures to transfer differential geometric and analytic methods from the arena of manifolds to stratified spaces. In the second part the methods established in the first part are applied to particular classes of stratified spaces like for example orbit spaces. Then a new de Rham theory for stratified spaces is established and finally the Hochschild (co)homology theory of smooth functions on certain classes of stratified spaces is studied. The book should be accessible to readers acquainted with the basics of topology, analysis and differential geometry.