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Nota di contenuto	Cover -- Title page -- List of symbols -- Chapter 1. Introduction -- 1.1. Historical background -- 1.2. Outline of contents -- Chapter 2. Convex bodies and finite perimeter sets -- 2.1. Convex bodies and local convergence in Hausdorff distance -- 2.2. Finite perimeter sets and isoperimetric profile -- Chapter 3. Unbounded convex bodies of uniform geometry -- 3.1. Asymptotic cylinders -- 3.2. Convex bodies of uniform geometry -- 3.3. Density estimates and a concentration lemma -- 3.4. Examples -- Chapter 4. A generalized existence result -- 4.1. Preliminary results -- 4.2. The main result -- Chapter 5. Concavity of the isoperimetric profile -- 5.1. Continuity of the isoperimetric profile -- 5.2. Approximation by smooth sets -- 5.3. Concavity of the isoperimetric profile -- Chapter 6. Sharp isoperimetric inequalities and isoperimetric rigidity -- 6.1. Convex bodies with non-degenerate asymptotic cone -- 6.2. The isoperimetric profile for small

volumes -- 6.3. Isoperimetric rigidity -- Chapter 7. Asymptotic behavior of the isoperimetric profile of an unbounded convex body -- 7.1. An asymptotic isoperimetric inequality -- 7.2. Estimates on the volume growth of balls -- 7.3. Examples -- Bibliography -- Back Cover.

Sommario/riassunto

"We consider the problem of minimizing the relative perimeter under a volume constraint in an unbounded convex body C Rn, without assuming any further regularity on the boundary of C. Motivated by an example of an unbounded convex body with null isoperimetric profile, we introduce the concept of unbounded convex body with uniform geometry. We then provide a handy characterization of the uniform geometry property and, by exploiting the notion of asymptotic cylinder of C, we prove existence of isoperimetric regions in a generalized sense. By an approximation argument we show the strict concavity of the isoperimetric profile and, consequently, the connectedness of generalized isoperimetric regions. We also focus on the cases of small as well as of large volumes; in particular we show existence of isoperimetric regions with sufficiently large volumes, for special classes of unbounded convex bodies. We finally address some questions about isoperimetric rigidity and analyze the asymptotic behavior of the isoperimetric profile in connection with the notion of isoperimetric dimension"--