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Autore	Schoutens Hans
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Nota di contenuto	Ultraproducts and ?o?' Theorem -- Flatness -- Uniform Bounds -- Tight Closure in Positive Characteristic -- Tight Closure in Characteristic Zero. Affine Case -- Tight Closure in Characteristic Zero. Local Case -- Cataproducts -- Protoproducts -- Asymptotic Homological Conjectures in Mixed Characteristic.
Sommario/riassunto	In spite of some recent applications of ultraproducts in algebra, they remain largely unknown to commutative algebraists, in part because they do not preserve basic properties such as Noetherianity. This work wants to make a strong case against these prejudices. More precisely, it studies ultraproducts of Noetherian local rings from a purely algebraic perspective, as well as how they can be used to transfer results between the positive and zero characteristics, to derive uniform bounds, to define tight closure in characteristic zero, and to prove asymptotic versions of homological conjectures in mixed characteristic. Some of these results are obtained using variants called chromatic products, which are often even Noetherian. This book, neither

assuming nor using any logical formalism, is intended for algebraists and geometers, in the hope of popularizing ultraproducts and their applications in algebra.