1. Record Nr. UNINA9910455280303321 Autore Hyder David Jalal <1964-> Titolo The determinate world [[electronic resource]]: Kant and Helmholtz on the physical meaning of geometry / / by David Hyder Berlin; ; New York, : Walter de Gruyter, 2009 Pubbl/distr/stampa **ISBN** 1-282-71672-7 9786612716720 3-11-021720-1 Descrizione fisica 1 online resource (238 p.) Collana Quellen und Studien zur Philosophie., 0344-8142; ; Bd. 69 Classificazione CF 5017 516 Disciplina 516.001 Geometry - Philosophy Soggetti Electronic books. Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Note generali Description based upon print version of record. Nota di bibliografia Includes bibliographical references and index. Frontmatter -- Contents -- 1. Introduction -- 2. The Empirical Nota di contenuto Determination of Physical Concepts in Kant's Metaphysical Foundations of Natural Science -- 3. Helmholtz on the Comprehension of Nature --4. Colour-theory and Manifolds -- 5. The Road to Empirical Geometry -- 6. Helmholtz on Geometry, 1868 - 1878 -- 7. Conclusion --**Backmatter** Sommario/riassunto This book offers a new interpretation of Hermann von Helmholtz's work on the epistemology of geometry. A detailed analysis of the philosophical arguments of Helmholtz's Erhaltung der Kraft shows that he took physical theories to be constrained by a regulative ideal. They must render nature "completely comprehensible", which implies that all physical magnitudes must be relations among empirically given phenomena. This conviction eventually forced Helmholtz to explain how geometry itself could be so construed. Hyder shows how Helmholtz answered this question by drawing on the theory of magnitudes developed in his research on the colour-space. He argues against the dominant interpretation of Helmholtz's work by suggesting

that for the latter, it is less the inductive character of geometry that makes it empirical, and rather the regulative requirement that the

system of natural science be empirically closed.