1. Record Nr. UNINA9910810249403321 Autore Nicolai Roel **Titolo** The enigma of the origin of Portolan charts: a geodetic analysis of the hypothesis of a medieval origin / / editor, Roel Nicolai Leiden;; Boston:,: Brill,, 2016 Pubbl/distr/stampa **ISBN** 90-04-28512-1 1 online resource (570 pages): illustrations (some color), maps, charts Descrizione fisica Collana History of science and medicine library;; v. 52 Altri autori (Persone) NicolaiRoel Disciplina 623.89/22 Soggetti Nautical charts - History Navigation - History Cartography - History Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Note generali Bibliographic Level Mode of Issuance: Monograph Nota di bibliografia Includes bibliographical references and index. Nota di contenuto Preliminary Material -- 1 Introduction -- 2 Key Characteristics of Portolan Charts -- 3 Existing Hypotheses on the Origin and Construction Method of Portolan Charts -- 4 Cartometric Analysis; Methodology and Existing Research -- 5 Cartometric Analysis of Five Charts -- 6 The Relationship between Portolans and Portolan Charts --7 Constraints on Shipping and Navigation in the Medieval Mediterranean -- 8 The Map Projection, Artificial or Intentional? -- 9 Navigational Practices in the Twelfth and Thirteenth Centuries -- 10 An Arabic-Islamic Origin of Portolan Charts? -- 11 Conclusions -- 12 Synthesis -- Appendix A: The Historical Setting of the Emergence of Portolan Charts -- Appendix B: Calculation of the Length of a Rhumb Line -- Appendix C: The Plane Charting Examples from Chapter 2 --Appendix D: Accuracy Model for Medieval Navigation -- Appendix E: Cartometric Analysis Details -- Appendix F: Reliability of the cals7k.2 Archaeomagnetic Model -- Appendix G: Is the Map Projection Accidental? A Statistical Analysis -- Appendix H: The Preface of the Liber de existencia riveriarum -- Bibliography -- Index. Sommario/riassunto The sudden appearance of portolan charts, realistic nautical charts of the Mediterranean and Black Sea, at the end of the thirteenth century is one of the most significant occurrences in the history of cartography.

> Using geodetic and statistical analysis techniques these charts are shown to be mosaics of partial charts that are considerably more

accurate than has been assumed. Their accuracy exceeds medieval mapping capabilities. These sub-charts show a remarkably good agreement with the Mercator map projection. It is demonstrated that this map projection can only have been an intentional feature of the charts' construction. Through geodetic analysis the author eliminates the possibility that the charts are original products of a medieval Mediterranean nautical culture, which until now they have been widely believed to be.