1. Record Nr. UNINA9910254080503321 Autore Ostwald Michael J Titolo The Fractal Dimension of Architecture / / by Michael J. Ostwald, Josephine Vaughan Pubbl/distr/stampa Cham:,: Springer International Publishing:,: Imprint: Birkhäuser,, 2016 **ISBN** 3-319-32426-8 Edizione [1st ed. 2016.] Descrizione fisica 1 online resource (429 p.) Collana Mathematics and the Built Environment, , 2512-157X ; ; 1 Disciplina 510 Soggetti Mathematics Mathematics in Art and Architecture 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. Nota di contenuto 1.Introduction -- Part I: Understanding and Measuring Fractal Dimensions -- 2. Fractals in Architectural Design and Critique -- 3. Introducing the Box-Counting Method -- 4. Measuring Architecture --5. Refining and Understanding the Method -- Part II: Measuring Twentieth Century Architecture -- 6. Analysing the Form of the Twentieth Century House -- 7. The Rise of Modernity -- 8. Organic Design -- 9.Post-Modernism -- 10.Avant-Garde and Abstraction --11. Minimalism and Regionalism -- 12. Conclusion -- References --Acknowledgments. Sommario/riassunto Fractal analysis is a method for measuring, analysing and comparing the formal or geometric properties of complex objects. In this book it is used to investigate eighty-five buildings that have been designed by some of the twentieth-century's most respected and celebrated architects. Including designs by Le Corbusier, Eileen Gray, Frank Lloyd Wright, Robert Venturi, Frank Gehry, Peter Eisenman, Richard Meier and Kazuyo Sejima amongst others, this book uses mathematics to analyse arguments and theories about some of the world's most famous designs. Starting with 625 reconstructed architectural plans and elevations, and including more than 200 specially prepared views of famous buildings, this book presents the results of the largest mathematical study ever undertaken into architectural design and the

largest single application of fractal analysis presented in any field. The

data derived from this study is used to test three overarching hypotheses about social, stylistic and personal trends in design, along with five celebrated arguments about twentieth-century architecture. Through this process the book offers a unique mathematical insight into the history and theory of design.