Record Nr. UNINA9910817666803321 Autore Shyy W (Wei) Titolo An introduction to flapping wing aerodynamics [[electronic resource] /] / Wei Shyy, Hikaru Aono, Chang-kwon Kang, Hao Liu Cambridge:,: Cambridge University Press,, 2013 Pubbl/distr/stampa **ISBN** 1-139-88982-6 1-107-06589-5 1-5231-1539-4 1-107-05511-3 1-107-05853-8 1-107-05621-7 1-107-05977-1 1-139-58391-3 Descrizione fisica 1 online resource (xxi, 297 pages) : digital, PDF file(s) Collana Cambridge aerospace series;; 37 629.1323 Disciplina Soggetti Aerodynamics Airplanes - Wings Micro air vehicles Wings (Anatomy) Animal flight Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Title from publisher's bibliographic system (viewed on 05 Oct 2015). Note generali Includes bibliographical references and index. Nota di bibliografia An Introduction to Flapping Wing Aerodynamics -- Preface of the First Nota di contenuto Edition (Aerodynamics of Low Reynolds Number Flyers) -- Introduction -- Rigid Fixed-Wing Aerodynamics -- Rigid Flapping-Wing Aerodynamics -- Flexible Wing Aerodynamics -- Future Perspective. This is an ideal book for graduate students and researchers interested Sommario/riassunto in the aerodynamics, structural dynamics and flight dynamics of small birds, bats and insects, as well as of micro air vehicles (MAVs), which present some of the richest problems intersecting science and engineering. The agility and spectacular flight performance of natural flyers, thanks to their flexible, deformable wing structures, as well as to outstanding wing, tail and body coordination, is particularly significant.

To design and build MAVs with performance comparable to natural flyers, it is essential that natural flyers' combined flexible structural dynamics and aerodynamics are adequately understood. The primary focus of this book is to address the recent developments in flapping wing aerodynamics. This book extends the work presented in Aerodynamics of Low Reynolds Number Flyers (Shyy et al. 2008).