Record Nr. UNINA9910254210703321 Autore aus der Wiesche Stefan Titolo Convective Heat Transfer From Rotating Disks Subjected To Streams Of Air / / by Stefan aus der Wiesche, Christian Helcig Pubbl/distr/stampa Cham: .: Springer International Publishing: .: Imprint: Springer. . 2016 **ISBN** 3-319-20167-0 Edizione [1st ed. 2016.] Descrizione fisica 1 online resource (119 p.) Collana SpringerBriefs in Thermal Engineering and Applied Science, , 2193-2530 620 Disciplina Soggetti Thermodynamics Heat engineering Heat transfer Mass transfer Fluid mechanics Machinery Engineering Thermodynamics, Heat and Mass Transfer **Engineering Fluid Dynamics** Machinery and Machine Elements Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Note generali Description based upon print version of record. Includes bibliographical references and index. Nota di bibliografia Nota di contenuto 1.Introduction -- 2.Basis Principles -- 3.Wind Tunnel Experiments with Rotating Disks -- 4. Axisymmetric Configurations -- 5. Stationary Disk in Air Stream -- 6.Rotating Disk in Air Stream -- 7.Large-Eddy-Simulation (LES) Analysis -- 8. Heat Transfer Correlations for Practical Applications. This Brief describes systematically results of research studies on a Sommario/riassunto series of convective heat transfer phenomena from rotating disks in air crossflow. Phenomena described in this volume were investigated experimentally using an electrically heated disk placed in the test section of a wind tunnel. The authors describe findings in which transitions between different heat transfer regimes can occur in dependency on the involved Reynolds numbers and the angle of

incidence, and that these transitions could be related to

phenomenological Landau and Landau-de Gennes models. The concise volume closes a substantial gap in the scientific literature with respect to flow and heat transfer in rotating disk systems and provides a comprehensive presentation of new and recent results not previously published in book form.