Record Nr. UNINA9910299481203321 Autore Khandekar Sameer Titolo Dropwise condensation on inclined textured surfaces // Sameer Khandekar, Krishnamurthy Muralidhar New York:,: Springer,, 2014 Pubbl/distr/stampa 1-4614-8447-2 **ISBN** Edizione [1st ed. 2014.] 1 online resource (xv, 141 pages): illustrations (some color) Descrizione fisica Collana SpringerBriefs in Thermal Engineering and Applied Science, , 2193-2530 620.1064 Disciplina Soggetti Condensation Transport theory Surfaces (Physics) Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia "ISSN: 2191-530X." Note generali Nota di bibliografia Includes bibliographical references. Nota di contenuto Introduction -- Modeling Dropwise Condensation -- Dropwise Condensation: Simulation Results -- Dropwise Condensation: Experiments -- Concluding remarks and perspectives. Dropwise Condensation on Textured Surfaces presents a holistic Sommario/riassunto framework for understanding dropwise condensation through mathematical modeling and meaningful experiments. The book presents a review of the subject required to build up models as well as to design experiments. Emphasis is placed on the effect of physical and chemical texturing and their effect on the bulk transport phenomena. Application of the model to metal vapor condensation is of special interest. The unique behavior of liquid metals, with their low Prandtl number and high surface tension, is also discussed. The model predicts instantaneous drop size distribution for a given level of substrate subcooling and derives local as well as spatio-temporally averaged heat

transfer rates and wall shear stress.