Record Nr. UNINA9910163008103321 Autore Phadke Arun G Titolo Synchronized Phasor Measurements and Their Applications [[electronic resource] /] / by Arun G. Phadke, James S. Thorp Pubbl/distr/stampa Cham: .: Springer International Publishing: .: Imprint: Springer. . 2017 **ISBN** 3-319-50584-X Edizione [2nd ed. 2017.] Descrizione fisica 1 online resource (XIII, 285 p. 182 illus., 25 illus. in color.) Power Electronics and Power Systems, , 2196-3185 Collana 621.042 Disciplina Soggetti **Energy systems** Power electronics **Energy Systems** Power Electronics, Electrical Machines and Networks Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Includes bibliographical references and index. Nota di bibliografia Nota di contenuto Part I: Phasor Measurement Techniques -- Introduction -- Phasor Estimation of Nominal Frequency Inputs -- Phasor Estimation at Offnominal Frequency Inputs -- Frequency Estimation -- Phasor Measurement Units and Phasor Data Concentrators -- Transient Response of Phasor Measurement Units -- Part II: Phasor Measurement Applications -- State Estimation -- Control with Phasor Feedback --Phasor Measurement Enabled Decision Making -- Protection Systems with Phasor Inputs -- Electromechanical Wave Propagation. This book builds on the cutting edge research presented in the Sommario/riassunto previous edition that was the first of its kind to present the technology behind an emerging power systems management tool still in the early stages of commercial roll-out. In the intervening years, synchrophasors have become a crucial and widely adopted tool in the battle against electricity grid failures around the world. Still the most accurate wide area measurement (WAMS) technology for power systems, synchronized phasor measurements have become increasingly sophisticated and useful for system monitoring, as the advent of big data storage allows for more nuanced real-time analysis, allowing operators to predict, prevent and mitigate the impacts of blackouts with enhanced accuracy

and effectiveness. This new edition continues to provide the most

encompassing overview of the technology from its pioneers, and has been expanded and updated to include all the applications and optimizations of the last decade. The seminal work in the essential field of synchophasor power system applications, from the renowned researchers who invented the technology; Now updated to include the newest applications and optimizations supporting more accurate analytics and prediction, and therefore more certain prevention of blackouts; Presents a coherent account of the development of the technology, and of the emerging applications of these measurements.