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Sommario/riassunto

A guide to the physics of Dynamic Temperature Sensing "DTS" measurements including practical information about procedures and applications Distributed Fiber Optic Sensing and Dynamic Rating of Power Cables offers a comprehensive review of the physics of dynamic temperature sensing measurements "DTS", examines its functioning, and explores possible applications in electric power cables. The expert authors describe the available fiber optic cables, their construction, and methods of installation. The book also includes a discussion on the variety of testing methods in the context of electric utility applications with information on the advantages and disadvantages of each. The book reviews the application of DTS systems in an electrical utility environment, and highlights the possible placement of the fiber optic cable. The authors offer a detailed explanation of the cable ampacity "current rating" calculations and examine how the measured fiber temperature is used to obtain the dynamic cable rating information in real time. In addition, the book details the leading RTTR suppliers, including the verification methods they used before their products come to market. Information on future applications of DTS technology in other aspects of power system operation is also discussed. This important book: . Explains the required calibration procedures and utility performance tests needed after the installation of a DTS system. Includes information on the various practical aspects of communicating measured and computed quantities to the transmission system operator. Reviews possible applications of the technology to fault location, vibration monitoring, and general surveying of land and submarine cable routes Written for cable engineers and manufacturers, Distributed Fiber Optic Sensing and Dynamic Rating of Power Cables is an authoritative guide to the physics of DTS measurements and

contains information about costs, installation procedures, maintenance,
and various applications.
