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Sommario/riassunto

This book, 'Product Design and Testing for Automotive Engineering: Volume II,' authored by Young J. Chiang, is a comprehensive guide focusing on enhancing the reliability of automotive engineering through advanced design and testing methodologies. It is part of the SAE Design of Experiments (DOE) for Product Reliability Growth series. The book delves into statistical tolerance design, which impacts manufacturing and material selection, and employs methods such as maximum likelihood estimators and Monte Carlo simulations for assembly strategies. Key topics include reliability design of experiments using Weibull and exponential distributions, and the integration of physics of failure with statistical methods like Weibull statistics. The book is aimed at engineers, researchers, and automotive professionals, providing them with tools to predict and improve product reliability, optimize part and system designs, and refine lifecycle predictions through accelerated life tests.