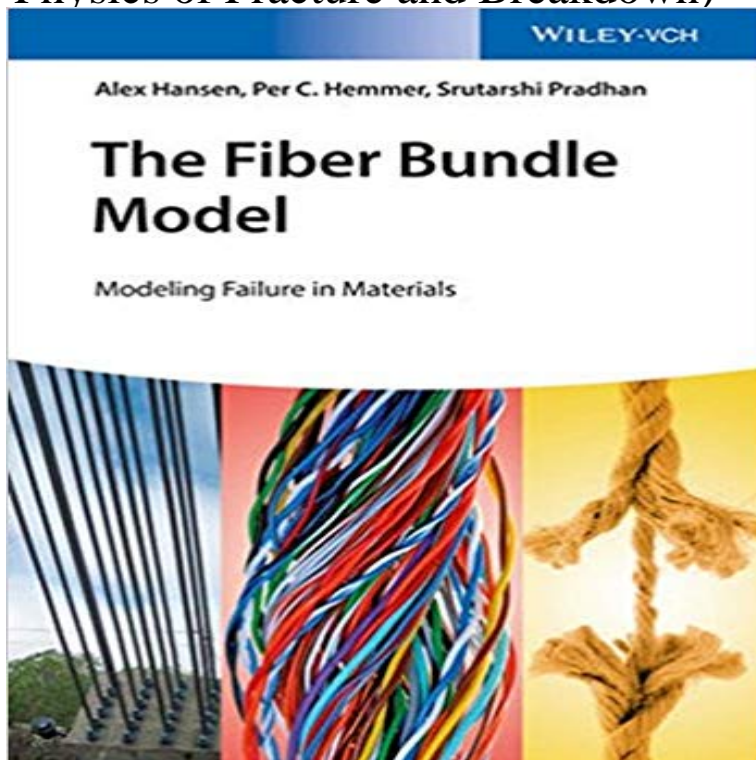


# The Fiber Bundle Model: Modeling Failure in Materials (Statistical Physics of Fracture and Breakdown)



Gathering research from physics, mechanical engineering, and statistics in a single resource for the first time, this text presents the background to the model, its theoretical basis, and applications ranging from materials science to earth science. The authors start by explaining why disorder is important for fracture and then go on to introduce the fiber bundle model, backed by various different applications. Appendices present the necessary mathematical, computational and statistical background required. The structure of the book allows the reader to skip some material that is too specialized, making this topic accessible to the engineering, mechanics and materials science communities, in addition to providing further reading for graduate students in statistical physics.

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