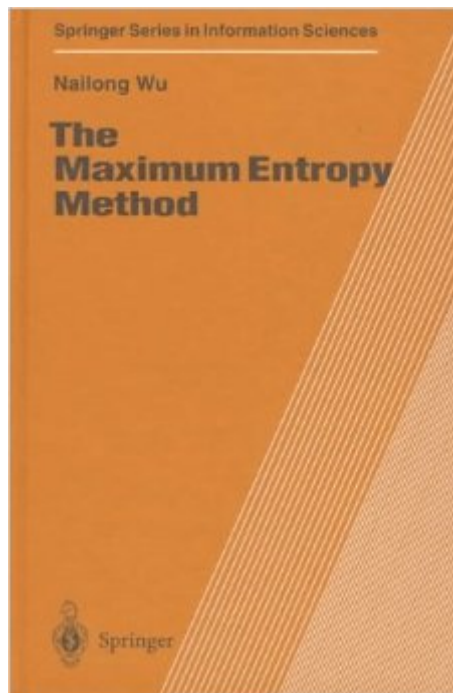# The Maximum Entropy Method (Springer Series In Information Sciences)

Synopsis

Forty years ago, in 1957, the Principle of Maximum Entropy was first introÂ- duced by Jaynes into the field of statistical mechanics. Since that seminal publication, this principle has been adopted in many areas of science and technology beyond its initial application. It is now found in spectral analysis, image restoration and a number of branches ofmathematics and physics, and has become better known as the Maximum Entropy Method (MEM). Today MEM is a powerful means to deal with ill-posed problems, and much research work is devoted to it. My own research in the area ofMEM started in 1980, when I was a gradÂ- uate student in the Department of Electrical Engineering at the University of Sydney, Australia. This research work was the basis of my Ph.D. theÂ- sis, The Maximum Entropy Method and Its Application in Radio Astronomy, completed in 1985. As well as continuing my research in MEM after graduation, I taught a course of the same name at the Graduate School, Chinese Academy of Sciences, Beijingfrom 1987to 1990. Delivering the course was theimpetus for developing a structured approach to the understanding of MEM and writing hundreds of pages of lecture notes.

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