

ciency gains that reduce computing times to orders $O(\ln n)$.) The remainder of the chapter is setting the mathematical bases of GRMFs, including stationarity conditions. (This last part is a bit hasty for my taste, but there also exist more detailed books on the topic like Guyon [3].) Chapter 3 deals with an extension of GMRF that was new to me, the *intrinsic GMRF*, associated with non-invertible \mathbf{Q} 's. This may seem curious at first glance because we are more familiar with non-invertible Σ 's, but this representation is just as valid, as shown in the case of conditioning on a linear restriction on \mathbf{x} , $\mathbf{A}\mathbf{x} = 0$.

Up to that point, the book is more probabilistic than statistical, in that it defines the models, studies their properties and often proposes simulation algorithms. Chapters 4 and 5 overcome this difficulty by presenting models, where GMRFs can be used at various levels and the resulting Bayesian inference, State-space (or normal response) models and auxiliary variable models are classes of models that fit in the possible applications and that are covered in Chapter 4. This chapter also discusses blocking strategies in terms of Gibbs efficiency via GMRFs representations. Overall, it highlights the huge potential of GMRFs for spatial modelling. The last chapter deals with current research of the authors on the approximation of Gaussian fields (with the difficult problem of handling the boundaries) and on the issue of hidden GMRFs, a local version of hidden Markov chain. The book also contains a useful appendix on GMRFLib, the open source library developed by Rue and Follstad [4] for sampling GMRFs and running MCMC inference about GMRFs.

I thus enjoyed reading this book and I would recommend it to anyone involved in spatial modelling as a time-effective introduction to the field, including a concern for practical implementation that may be lacking elsewhere and a good stylistic balance between background and technicalities, between bases and illustrations that makes it a rather easy reading.

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(DOI: 10.1002/sim.2557)

STATISTICAL METHODS IN MEDICAL RESEARCH
Second Edition, by David G. Kleinman, David A.
Gelman, and Robert J. Carver. Wiley: New York,
1998. Pp. 400. ISBN: 0-471-15455-7.
Price: \$79.95. ISBN: 0-471-15455-7.

The book is a collection of papers from the
1998 International Conference on Statistical
Methods in Medical Research, held in
Paris, France, in 1998. The book is
divided into two parts: the first part
contains papers on the theory of
statistical methods, and the second
part contains papers on the application
of statistical methods to medical
research. The book is a valuable
reference for statisticians and
clinicians alike.

regression when the outcome is categorical, logistic regression when the outcome is binary, and Cox proportional hazards regression when the outcome is time to event. The book also covers a variety of other topics, including the use of simulation in statistical analysis, the use of graphical methods in statistical analysis, and the use of statistical software in statistical analysis.

The book is a valuable reference for statisticians and clinicians alike. It provides a comprehensive overview of the theory and application of statistical methods in medical research. The book is well written and easy to read. It is a must-read for anyone interested in statistical methods in medical research.