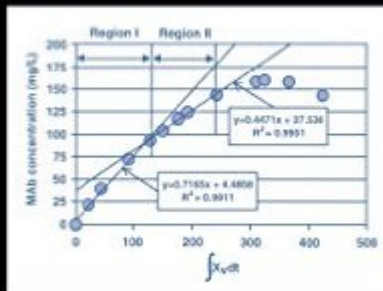


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Applied Parameter Estimation For Chemical Engineers (Chemical Industries)

APPLIED PARAMETER ESTIMATION FOR CHEMICAL ENGINEERS



Peter Englezos
Nicolas Kalogerakis



Synopsis

This book determines adjustable parameters in mathematical models that describe steady state or dynamic systems, presenting the most important optimization methods used for parameter estimation. It focuses on the Gauss-Newton method and its modifications for systems and processes represented by algebraic or differential equation models.

Book Information

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Average Customer Review: 5.0 out of 5 starsÂ Â See all reviewsÂ (1 customer review)

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Customer Reviews

For a long time I have been looking for a book like this one. Finally, I had found it. Just from the Table of Contents, you will see that includes a broad range of applications in parameter estimation such as: linear, non-linear, ODEs, PDEs and also algorithm's implementation. Special topics, such as sensitivity analysis in ODE models, Information index (where to do the measurements in order to maximize the content of information of the experimental data), and Statistical inference (i.e. parameters' inference, model adequacy test, etc.) are exposed with clarity. I particularly like the section of Solved Problems, where you can compare your own algorithms with the ones exposed in the book. I work with MATLAB (including my own algorithms), and I have done a couple of comparisons that match perfectly with the numerical results shown in the book. Many of the typical problems that I have faced in the area of parameter estimation were mentioned in the book; good recommendations or practices on how to avoid them are explained. In addition, there is a short section on shortcuts in the "bio" area. In summary, a good source of practical knowledge for those

ones interested in the topic.

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