

Statistical Dynamics of Sampled Data Systems, by P. D. Krut'ko. 521 pages. Iliffe, London, 1969. U.K. 135s.

The book is a translation from Russian and as usual in such translations some mistakes always occur. In fact $M[-]$ is becoming a standard form in Russian books for $E[-]$, the expected value.

Sampled data automatic control systems are extensively used in many branches of technology. There are obvious certain advantages over continuous control systems, but sampled data control systems have mostly lagged behind that of continuous control systems in current research. The book introduces some standard work in linear systems and statistical analysis of linear and nonlinear systems. The last two chapters on optimal systems with finite observation time and optimal non-stationary systems are comparatively new and should be of interest to graduate students and researchers of electrical engineering. On the whole the book does not get too involved in rigorous mathematics and is written in a classical style. It should therefore be not too difficult to follow.

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Nichtlineare Optimierung: Neuere Verfahren, Bibliographie, by H. P. Künzi and W. Oettli. 180 pages. Lecture notes in operations research and mathematical systems, Vol. 16. Springer-Verlag, Berlin-Heidelberg-New York, 1969. U.S. \$3.30.

The aim of this book is to give a brief presentation of certain algorithms for solving problems of nonlinear programming, and to give a good bibliography of nonlinear programming.

The first part of the volume is concerned with the presentation of the following methods for solving nonlinear programs: Kelley's cutting plane method; a tangential approximation method of Hartley and Hocking; "modified cutting plane methods" due to Kleibohm, Veinott and Zoutendijk; a heuristic approach of Griffith and Steward; the reduced gradient method, use of penalty functions, sequential unconstrained minimization techniques of Fiacco and McCormick; Huard's method of centers, and methods of feasible directions.

The second part of the book presents a detailed bibliography of books and articles on nonlinear programming. It is the reviewer's conviction that the ample material of this part of the volume will be of undoubted value for many students and experts of the field.

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