

Jakow S. Zypkin: *Theorie der linearen Impulssysteme*, 731 pages, price DM 98,-. R. Oldenbourg Verlag München, Wien, 1967.

This is a German translation of a book of one of the world's most famous authors on sampled-data systems, Professor J.S. Zypkin from the Institute of Automation and Remote Control in Moscow. It gives a systematic and almost exhaustive treatment of linear sampled-data systems. The author introduces in an early stage the idea of difference equations, which is not common practice in most textbooks on this subject. He not only gives a clear subdivision of sampling systems according to different pulse forms, such as systems with finite and infinite small pulse duration but also a great many of applications on electronics, telecommunication and mechanical engineering.

Apart from the more conventional subjects such as frequency domain, Nyquist stability criterion, dead-beat response, continuous and discrete compensation, it contains original contributions on statistical aspects, parameter plane, integration methods and digital-analogue conversion. A list of some hundreds of, mainly Russian, references completes the book.

There are also a few negative remarks to be made: the notation as a whole is more laborious than the corresponding anglo-american notation. The index is too concise. Dr. Tschauner's translation is, however excellent it may be, somewhat tedious. It is regrettable that in the German version a number of applications are omitted, as the translator announces in his preface; there are numerous misprints and, last but not least, some important tools in sampling control are hardly mentioned, for example sensitivity theory, signal-flow diagrams and root-locus techniques.

Summarizing, Zypkin's book is a valuable contribution to the literature on sampled-data systems, a field that becomes more and more important.

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