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NOTICE: When government or other drawings, specifications or other data are used for any purpose other than in connection with a definitely related government procurement operation, the U. S. Government thereby incurs no responsibility, nor any obligation whatsoever; and the fact that the Government may have formulated, furnished, or in any way supplied the said drawings, specifications, or other data is not to be regarded by implication or otherwise as in any manner licensing the holder or any other person or corporation, or conveying any rights or permission to manufacture, use or sell any patented invention that may in any way be related thereto.
The article discusses the employment of an analog computer for the dimensioning of linear control circuits, their time-rate constants, delay - and dead times, in order to obtain a desired degree of damping. As an object of the study the control loop simulator MD 1, developed by the author, was used. The transfer function simulator of the above system allowed simulation of networks containing "m" poles and "n" zeros. A table gives the attainable quality factor for linear control networks, over-shoot values A h ≤ 10%. A parallel compensation method is also proposed, as it is the most accurate one for experimental determination of the network parameters. At the Ilmenau Control Engineering Institute an automatic self-adjusting system based on the parallel compensation principle was developed. The proposed method of determination of the number and the respective value of the time constants requires further investigation because of the problem of disturbances superimposed upon the measured transfer function. There are 12 figures and 1 table.

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