

[Angelov, V. G.](#)

Lossy transmission lines terminated by nonlinear R -loads – periodic regimes. (English)

[Zbl 1107.94016](#)

[Fixed Point Theory](#) 7, No. 2, 201-218 (2006).

Summary: The paper is devoted to the analysis of lossy transmission lines terminated by nonlinear R -loads whose V-I characteristic is approximated by polynomials. By means of fixed-point method conditions for the existence of periodic solutions are formulated. A complete exposition of reducing of the mixed problem for lossy transmission lines to an initial value problem for a neutral functional differential equation on the boundary is presented. An example demonstrates the applicability of the method. It is shown of how to choose the relations between basic quantities in the process of analysis and design of the transmission lines.

MSC:

[94C05](#) Analytic circuit theory

[34K40](#) Neutral functional-differential equations

[47H10](#) Fixed-point theorems

Cited in **2** Documents

Keywords:

[lossy transmission lines](#); [nonlinear \$R\$ -load](#); [polynomial nonlinearities](#); [fixed-point theorem](#)