

## **ASPECTS REGARDING THE IMPROVEMENT OF SUPPLY QUALITY IN PUBLIC ELECTRICITY DISTRIBUTION SYSTEMS**

BY

**GH. GEORGESCU and BOGDAN NEAGU**

**Abstract.** In our country, the role of the public medium voltage (MV) and high voltage (HV) distribution systems has become more important as in the last years, the electricity consumption shifted towards MV and low voltage (LV) areas. With the aim to improve the quality of the services provided by the distribution systems, two mathematical models and a software application for optimizing the configuration of such a system are presented, improving the supply voltage at the consumer's side, and achieving a cut in costs and energy losses. At the same time, because of the known problem of the harmonic distortions often encountered in these systems, a design approach for harmonic filters, which are needed for limiting the harmonic distortions inevitably present in today's distribution systems is proposed too.

**Key words:** sequential analysis, genetic algorithms, harmonics, harmonic filters.