Abstract
This paper presents an analysis about wrong utilization of symmetrical components to solve the fault location problem on power distribution networks, and also includes a more complete model for unbalanced double line to ground and three lines to ground faults. In addition, it is evidenced how one of the most common mistakes is to use approximations from transmission systems, the fact of do not consider the mutual components obtained from impedance matrices as symmetrical components or the assumption that the fault impedance is always equal in all phases.

Keywords
Fault location, symmetrical components, distribution networks, phases unbalance.