

# OPTIMIZING REACTIVE POWER COMPENSATION IN A DISTRIBUTION SYSTEM IN CASE TAKING INTO ACCOUNT ACTUAL CAPACITORS

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## **Abstract:**

The reduction of losses in Distribution System (DS) is one of the main missions of power utilities. The method of economic compensation is often considered because here capacitors are used to compensate reactive power. With the growth of load and the expansion of topology, the existing capacitors in the network are not efficient, in terms of economy. Thus, the purpose of this paper is to find the optimal locations and optimize the size of capacitors with the objective: “maximal economic profit”. Here, the proposed model also considers the existing capacitors on the network. The proposed algorithm is validated by two cases which are IEEE model network-16 buses and a partial feeder of Cam Le district, Da Nang city network.

*Key words: Power losses; Economic compensation; Optimization; Power; Cost; Profit.*