

COORDINATING OF OVERCURRENT RELAY IN DISTRIBUTION SYSTEM  
USING LINEAR PROGRAMMING TECHNIQUE

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*To my beloved parents,*

**Mahmood Mohammad Zaheri, Mary Heidary**

*and Sisters,*

**Dila Mohammad Zaheri, Dorsa Mohammad Zaheri**

*And all my Friends*

*All my teachers and lecturers,*

*For their encouragement,*

*Support and motivation*

*Through my journey of education*

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## **ABSTRACT**

Power system includes many variety of equipment. A lot more amount of circuit breakers and relays are necessary to protect the system. The relays in the power system should be coordinated correctly so as to prevent mal-operation and therefore to avoid the unneeded outage of healthy section of the system. The overcurrent relays are usually the foremost protection product in a distribution system. Overcurrent relay is typically used as backup protection. But in a number of situations it may become the only protection supplied. A relay should get sufficient possibility to protect the area under its main protection. Just if the main protection does not clean the fault, the actual back-up Protection must start tripping, and as a result, overcurrent relay coordination in power distribution system is a important issue of protection engineer. The overcurrent relay coordination in ring fed distribution systems is a very constrained optimization trouble. The purpose is usually to discover an optimum relay setting to minimize the time of interruption of the power source and to stay away from the mal-operation of relay. This research talks about linear programming technique for optimum coordination of overcurrent relays in a ring fed distribution system.

## **ABSTRAK**

Sistem kuasa merangkumi pelbagai jenis peralatan. Lebih banyak pemutus litar dan geganti diperlukan untuk melindungi sistem ini. Geganti dalam sistem kuasa perlu diselaraskan dengan betul untuk mengelakkan gangguan yang tidak diperlukan dalam satu sistem yang sihat. Geganti arus lebih biasanya merupakan perlindungan utama dalam sistem pengagihan. Geganti arus lebih juga biasanya digunakan sebagai perlindungan sandaran. Tetapi dalam beberapa keadaan ia mungkin menjadi satu-satunya perlindungan yang ada. Geganti perlu memastikan ia dapat melindungi kawasan yang telah ditetapkan. Jika perlindungan utama tidak dapat mengasingkan fault, perlindungan sandaran haruslah berfungsi dan hasilnya penyelarasan geganti arus lebih dalam sistem pengagihan kuasa menjadi isu penting bagi jurutera perlindungan. The penyelarasan geganti arus lebih dalam sistem pengagihan gelang adalah satu isu yang penting. Tujuannya adalah untuk menentukan set optimum geganti untuk meminimumkan masa gangguan electric dan mengelakkan geganti dari tidak berfungsi. Kajian ini membincangkan tentang teknik pengaturcaraan linear untuk penyelarasan optimum geganti arus lebih dalam sistem pengagihan gelang.