

# Perancangan program dan analisis optimalisasi distribusi kanal radio siaran FM berbasis java untuk Propinsi Daerah Istimewa Yogyakarta = Java-based software design and analysis optimalization channel distribution of fm broadcasting radio and analysis the output of the program for the province of Yogyakarta

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## Abstrak

Distribusi kanal radio siaran FM yang selama ini tidak seimbang dan bijaksana menyebabkan penggunaan sumber daya kanal tidak optimal. Daerah-daerah berkembang mengalami kesulitan menambah porsi kanal dari yang telah ditetapkan. Distribusi kanal radio siaran FM untuk tiap-tiap propinsi ditetapkan pada Keputusan Menteri no 15 tahun 2003.

Sebuah program sederhana dirancang untuk mencari keberadaan nomor-nomor kanal yang masih mungkin dialokasikan bagi suatu daerah. Nomor-nomor kanal ini merupakan nomor-nomor kanal yang bebas interferensi, baik terhadap semua pemancar-pemancar potensi interferensi, maupun terhadap pemancar itu sendiri.

Propinsi yang dioptimalisasi dan dianalisa adalah propinsi Daerah Istimewa Yogyakarta. Penentuan daerah-daerah potensi interferensi dilakukan secara manual dengan menggunakan <i>software</i> Chirplus BC, yaitu daerah-daerah pada propinsi JawaTengah.

Hasil simulasi dan analisa memperlihatkan bahwa lima pemancar dari total delapan pemancar yang dimiliki oleh propinsi tersebut memiliki nomor-nomor kanal yang mengalami interferensi dengan pemancar lain.

Terdapat lima pemancar yang kepadanya masih dapat dialokasikan nomor-nomor kanal baru, dengan syarat nomor-nomor kanal yang mengalami interferensi diabaikan.

<hr><i>The distribution of FM broadcasting radio channels that has been allocated is both unbalance and unwise. This results in a less optimum use of channel source. Growing regions are also in trouble of adding new channels beside what has been allocated for them before. The distribution of FM broadcasting radio channels is stated on Keputusan Menteri no 15 tahun 2003.

A simple program is built to search the existence of new channels that are possible to be allocated for a transmitter in a region. These channels are interference-free channels, from both other potential-interfering transmitters, and the transmitter itself.

The province selected to be optimized and examined is the province of Yogyakarta. The selection of potential-interfering regions is done manually, by means of software Chirplus BC. This selection focuses on regions whose boundary located next to the province of D.I Yogyakarta, that is Central Java. The frequency spacing between two transmitters is calculated based on the value of protection ratio that has been calculated from data-processing.

The analysis shows that five among total eight transmitters have channels that conduct interference with another transmitter. If the channels that conduct interference are neglected, then there are still five transmitters that have possibilities to be allocated to new channels.</i>