# Aplikasi penjadwalan linear scheduling dengan pendekatan metode genetic algorithm pada proyek pembangunan breakwater di Pelabuhan Kalibaru = Application of linear scheduling with genetic algorithm method at breakwater construction project in Kalibaru Port

Ibrahim, author



---

Abstrak

Breakwater merupakan linear construction projects dengan repetitive work activities. Metode linear scheduling dengan genetic algorithm diaplikasikan pada pembangunan breakwater Pelabuhan Kalibaru. Dalam penelitian dilakukan dua analisa, yaitu analisa produktivitas dan biaya serta least cost scheduling genetic algorithm. Hasil optimasi peningkatan produktivitas setiap pekerjaan, akan meningkatkan biaya, dan mengurangi durasi. Hasil optimasi didapatkan durasi 231 hari dengan biaya Rp. 246,550,908,434 dengan penghematan durasi 288 hari dan biaya tambahan Rp. 145,958,232,320. Analisa least cost scheduling dengan genetic algorithm didapatkan durasi dan biaya optimal yaitu 410 hari dengan biaya Rp. 112,221,641,972. Hal ini menghemat biaya sebesar Rp. 3,266,034,920 dan menghemat durasi sebesar 108 hari.

<hr>

Breakwater is a linear construction project with repetitive work activities. Linear scheduling method with genetic algorithm was applied to breakwater construction of Kalibaru Port. This study conducted two analyzes, which consists of the productivity and cost analysis functions as well as functions of least cost scheduling genetic algorithm. The optimization results with an increase in the productivity of each job, will increase costs, and reduce the duration of the work. The selection of the best productivity results best duration is 231 days with total cost of Rp. 246,550,908,434 with saving of 288 days and additional cost of Rp. 145,958,232,320. Analysis of least cost scheduling combined with genetic algorithm is obtained optimal duration and cost of 410 days at a cost of Rp. 112,221,641,972. This saves the cost of Rp. 3,266,034,920 and saves time by 108 days.