

## The Grade Difference Format and $\text{MGM}^p(1,n)$ Optimization Model \*

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### ABSTRACT

There are some applications that need using the gray system techniques in distributed computing. In the basis of the grade difference format,  $\text{MGM}^p(1,n)$  model is proposed and some precision grade difference formats are obtained. Their relations and the mathematics' mechanism are discussed. The error will be interjecting to them. In the cases of absolute and comparative error, the gray model, which is a new gray  $\text{GMG}^p(1,n)$  model, is expounded and discussed. The models have nice anti-interference; the example manifest that the model has good effect.

**Keywords:** the gray model, the grade difference format, poor information, error.

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