MAX PLUS ALGEBRA FOR DYNAMIC ANALYSIS SYSTEM OF TRANSPORT NETWORK
(Case Study of Trans Hulontalangi Gorontalo City Transport)

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ABSTRACT: Petri nets and max plus algebra are a subclass of Discrete Event Systems (SED) that can determined and analyze the various properties of a system. Public transport is a very important community needs in urban life. Trans Hulontalangi bus is one of the transportation networks in the city of Gorontalo, held to address the problem of transport and reduce congestion. In this research constructed Petri net of transport lines trans Hulontalangi Gorontalo City, then conducted the study in the form max plus algebra. Number of place and transition of the Petri net is obtained respectively 14. Max plus algebra model is $\tilde{x}(k+1) = \tilde{A} \otimes \tilde{x}(k)$, with $\tilde{x}(k) = \left(\tilde{x}_1(k), \tilde{x}_2(k), \cdots, \tilde{x}_{14}(k)\right)'$, and $\tilde{A} \in R_{\varepsilon}^{n \times n}$.

Keywords: Petri Net, Max Plus Algebra, Transportation, Mathematics Model