ABSTRACT

The existence of Progo River become one of the resources for citizen in DIY who live arround it. The citizen make Progo river as their livelihood and resource for their daily live as for irigation, sand mining, drinking, launder, and forth. Therefore, the attention of water flow rate monitoring should be given. Outpouring rain data and water flow rate data is the data collection needed for hidrology analysis. The problem occur in the field usually is about the availability of water flow rate data which is needed in a range of time, thus it become an issue which usually found in hidrology analysis. The limit of water flow rate data can be avoided by applying a suitable model approachment with the DAS condition for predicting the available water flow rate data. On of the transformation methode from outpouring rain data to water flow rate data through DAS system is by using Nakayasu Method. This research done by doing analysis on direct overflow Nakayasu method with the observation located in DAS Borobudur which is sub-DAS Progo. The location is in AWLR Borobudur station and the data used is outpouring rain data from 20 January 2012 to 24 January 2012. The esential things that need to be observed in assembling synthetic unit hidrograf Nakayasu in sub-DAS progo upper course is adjusting the parameters from the equation needed so the desire observation model produce estimation which close to unit hidrograph observation. The purpose of this research is to produce Nakayasu method hidrology parameters if it is applied in upper course sub-DAS Progo. The modification of Nakayasu equation should resemble synthetic unit hidrograf Nakayasu thus with looking at corelation coefficient and determiner coefficient (R^2). The modification performed is the modification on tg equation and the modification on Q_a, Q_{d1}, Q_{d2}, Q_{d3} equation

Key words : Direct runoff, Nakayasu method, synthetic unit hidrograf, river characteristic