ABSTRACT

The latest technology regarding networks, namely Femtocell which is the latest technology in the field of telecommunications networks. Femtocell is a telecommunications technology with a smaller coverage area but has a higher spectrum efficiency. The use of the Femtocell network is used for indoor network access. The use of a Femtocell network with distributed user conditions results in the emergence of distributed power control or in other words Distributed Power Control (DPC). This method is used to save distributed user power consumption. In this study, researchers analyzed the Distributed Power Control (DPC) with a scheme of 5 users and 10 users. The results of this study indicate that when using the 5 users and 10 users scheme, there are two conditions, namely non-feasible and feasible conditions by fulfilling the absolute value of the eigenvalue H <1 and Non Negative Power Vector. Non-feasible conditions are caused because the distance between users is not limited. Under feasible conditions, all users are able to reach the convergence point of power and target SINR of 6.8 dB and 9.9 dB for both the 5 user and 10 user schemes. Whereas when the system is not feasible the user cannot achieve the convergence of the target power and SINR.

Keywords: Femtocell,User, DPC, Feasible, SINR