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The rapid development of technology has an impact on the use of increasingly dense frequency spectrum Wireless networks, 5G is designed to run applications that require high levels of data demand. One solution to data rate needs is to enable tissue densification using small cells. The implementation of HetNets will certainly cause additional interference, especially for users in edge cells of macrocells and small cells HetNet's performance in overcoming user interference is very important for cellular communication, especially in femtocell network technology which has advantages in terms of spectrum limitations. Femtocell technology can also share spectrum with macrocell tissue. In this case, it is necessary to have an uplink power control system applied to the usage side in order to reduce interference caused by interference between cells. This research uses Game Theory Koskie Gajic and Al Gumaae's approach on power control systems in heterogeneous networks. The parameters used in this study are power transmit and SINR. The purpose of this study is to increase the efficiency of using transmit power to obtain the target signal to interference noise ratio (SINR) value needed by all users. The results of this study show that the use of Game Theory Koskie Gajic and Al Gumaei methods in the 5 user scheme is able to achieve 2 different system conditions, namely fissile conditions and non-fissible conditions.

Kata Kunci : *Game Theory* Al Gumaei*, Game Theory* Koskie Gajic, *Heterogeneous Network, Power Control Game (PCG), Power Transmit, SINR.*