Performance analysis of doppler shift on vehicle speed with jakes model

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Abstrak

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The development of communication is increasing in the last decade, so that new infrastructure and technology emerge. The technology used to realize this time, is not only by using multi antenna technique, but also used orthogonal frequency division multiplexing (OFDM). But on systems that use OFDM will be sensitive to the effects of Doppler shifts and will result in inter carrier interference (ICI). To compensate for the influence of the Doppler shift on the HAPS communication system with ricean canals, a modified jakes model is needed. Based on the simulation, the ricean canal (HAPS communication system) has a small slope width so that it has characteristics close to LOS. The calculation of the Doppler shift in this study showed that the higher the speed, the greater the Doppler shift value while the greater the K factor, the smaller the Doppler shift value. So that the higher the K factor, the communication system is getting closer to LOS, the damping and noise values are getting smaller.