# Path Loss Model Considering Doppler Shift for High Speed Railroad Communication

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***Abstract*— In this paper, we propose the tuned free-space path loss modelling in high speed railroad considering Doppler effect. We use tuned free space path loss model which is utilized for measurement results at high speed railroad. The environment of high speed rail is mostly at viaduct and flatland over than 50 percent. The purpose of this paper is analyzing Doppler shift effect at viaduct and plain by using modified path loss model. Simulation results show that proposed path loss model considering estimated Doppler shift coincides with the free space loss model.**

***Keyword*—Path loss, high speed railroad, Doppler shift, free space, propagation.**

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