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## Analysis of time diversity gain for satellite communication link based on ku-band rain attenuation data measured in Malaysia (Article)

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## Abstract

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This paper reports a study on mitigation of propagation impairments on Earth-space communication links. The study uses time diversity as a technique for mitigating rain propagation impairment in order to rectify rain fade. Rain attenuation time series along earth-to-satellite link were measured for two years period at 12.255 GHz in Malaysia. The time diversity technique was applied on measured rain fade to investigate the level of possible improvement in system. Time diversity gain from measured one-minute rain attenuation for two years period was estimated and significant improvement was observed with different delays of time. These findings will be utilized as a useful tool for link designers to apply time diversity as a rain fade mitigation technique in Earth-satellite communications systems. Copyright © 2018 Institute of Advanced Engineering and Science. All rights reserved.

## Author keywords

[Earth-satellite links](#) [Rain attenuation](#) [Time diversity gain](#)

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