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Method and System to Model TCP Throughput, Assess Power Control Measures, and Compensate for Fading and Path Loss for Highly Mobile Broadband Systems

Researchers at Stanford University have over come some of the critical challenges for wireless broadband users to remain connected in highly mobile environments. Having wireless access to the internet anytime and anywhere is a growing desire of PDA and laptop users everywhere - especially when the users are confined train passengers with ample time between transit. The invention is a method that models TCP throughput, assesses power control measures, selects an optimal control measure, and compensates for fading and path loss conditions for highly mobile broadband systems. The prescribed algorithm prevents TCP performance degradation over wireless channels and may achieve increased data transfer rates.

Applications

- Provide wireless access to user on trains, buses, car, or other highly mobile transportation.

Advantages

- Prevents TCP performance degradation via optimization of existing broadband control measures as opposed to accessing or integrating new hardware.

Publications

- U.S. Patent Application No. 10/943,557
- J. P. Singh, Y. Li, N. Bambos, A. Bahai, B. Xu, and G. Zimmermann, “TCP Performance Dynamics and Link-Layer Adaptation Based Optimization Methods for Wireless Networks,” in IEEE Trans. on Wireless Communications, VOL. 6, NO. 4, April 2007

Patents

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