

WWVC 2014

Title: Does ETSI beaconing frequency control provide a cooperative awareness?

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Abstract: Platooning is an emergent vehicular application aiming at increasing road safety, efficiency and driving comfort. The cooperation between the vehicles in a platoon is achieved by the frequent exchange of periodic broadcast Cooperative Awareness Messages (CAMs) also known as beacons. CAM triggering conditions are drafted in the standard ETSI EN 302 637-2 and are based on the dynamics of an originating vehicle. These conditions are checked repeatedly with a certain sampling rate. We have discovered that the improper choice of the sampling rate value may increase the number collisions between CAMs at the IEEE 802.11p medium access control layer and, therefore, diminish the efficiency of beaconing in a platoon.

Bio: Nikita Lyamin received BS'11 (Hons.) and MS'13 (Hons.) in telecommunications from Siberian State University of Telecommunications and Information Sciences, Novosibirsk, Russia. He is now a PhD student with the School of Information Science, Computer and Electrical Engineering Halmstad University, Halmstad, Sweden. His current research interests include vehicular ad-hoc networks and media access control mechanisms.