Abstracts

Doppler Measurement of Lateral and Longitudinal Velocity for Automobiles at Millimeterwaves

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In this paper a Doppler radar system is presented which is able to measure the lateral and the longitudinal speed of an automobile. The knowledge of the lateral speed gives a better understanding of the vehicle's dynamic behaviour especially in critical situations. The theoretical measurement accuracy is evaluated and compared to experimental data. The accuracy depends on the antenna configuration as well as on its beamforming properties. Data which were recorded during testruns in real environment are in good agreement with the theoretical expected values.

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