

Assessment of Distance Sensors - Past - Present - Future -

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Abstract—With the introduction of advanced assistant systems distance sensors based on radar and laser technology are utilised to detect target objects around the vehicle. In order to determine the performance of these sensors test procedures were developed in the past.

This paper presents an overview of selected test procedures for sensor assessment at the Institut für Kraftfahrzeuge Aachen (ika) and Forschungsgesellschaft Kraftfahrwesen mbh Aachen (fka). Based upon these tests and the long-time experience of ika and fka a retrospective on sensors performance of the last ten years is drawn. The evolution of the sensors is shown and a comparison between the technologies is given by means of anonymous test results for sensors manufactured by different suppliers. Finally an outlook on new test procedures for future applications of these sensors is provided.

Index terms—Smart sensors, automotive radar, automotive lidar, driver assistance, testing