Abstracts

Low-cost automobile crash-sensor using a 61 GHz active integrated SIMMWIC antenna

M.M. Kaleja, J. Buchler, R.H. Rasshofer, J.-F. Luy and E.M. Biebl. "Low-cost automobile crash-sensor using a 61 GHz active integrated SIMMWIC antenna." 2000 MTT-S International Microwave Symposium Digest 00.3 (2000 Vol. III [MWSYM]): 1969-1972.

We present a novel low-cost crash sensor to detect automobile body sheet deformations. The sensor, based on the CW Doppler radar principle, determines the deformation and deformation rate of a radar reflector inside a car door. Founded on these parameters, decision criteria can be derived within a few milliseconds allowing prediction of the seriousness of deformation. With this information, side-impact protection can be increased significantly by effective combination of safety systems ("predictive crash analysis").

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