A B S T R A C T

European Research needed at EMC system level

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Future vehicle electronic systems will provide many more safety related functions to aid the driver, as well as advanced telematics facilities to support activities such as traffic management. In addition, more sophisticated control systems will be used to optimise vehicle performance and emissions. Thus, electromagnetic compatibility (EMC) represents an increasingly significant issue for the function, safety and reliability of modern vehicles.

In this lecture, the ElectroMagnetic coupling issues to cabling in vehicles is reviewed. The current situation of the automotive EMC directive 95/54 is then presented. Further vehicle & ESA EMC test methods are reviewed.

Finally the European research project “GEMCAR” is presented. This project aims to develop a comprehensive set of guidelines for practical electromagnetic modelling in automotive applications, based on detailed validation of models of real vehicles. It is believed that CEM (Computational ElectroMagnetics) techniques will be used more and more in the development and certification phase of the vehicle.