Graz University of Technology
Institute of Electronics

BS or MS thesis: Electrostatic Discharge to Sensor and Displays - in cooperation with Bosch and Google

Motivation

If an electrostatic discharge (ESD) hits an isolating surface, such as a plastic sensor or a display then no sparking will occur. But the strong electromagnetic field can cause charges to be “trapped” inside the sensor or display. The trapped charges cause internal fields and can change the properties of the sensors or displays. Goal is to reproduce the effects, quantify them by measuring charge and currents, modeling and quantifying the risk.

You will learn

- GHz speed time domain measurement techniques
- Many things about antennas
- Sensor and display failure types, how the circuits (e.g., MEMS) react to extra fields
- Testing for unwanted responses using electrostatic discharge generators
- Modeling of the effects, e.g. in full wave electromagnetic solvers or circuit solvers
- Understanding of noise coupling into circuits and methods to reduce it.
- The topic is can lead to publications in conferences and journals.

Organizational matters

- Start: as soon as possible at the Institute of Electronics

Contact/Supervision

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