

Séminaire SATIE

Mardi 9 juillet 2013 à 14h,
en amphithéâtre Chemla (ENS Cachan)

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« Infrared Thermography application to electron devices and circuits »,

Among all the non-contact techniques used to monitor the operation of an electronic device or circuit, Infrared Thermography stands out thanks to many attractive features.

Following the commercial market availability of high sensitive infrared sensors, nowadays the range of infrared (IR) cameras, that can be applied to characterize the temperature distribution across a semiconductor device, has increased considerably.

As current flow within the volume of a semiconductor device generates heat according to the Joule's effect, temperature differences in the devices are inherently presents during its operation.

Accordingly many papers relevant to the application of this technique field of characterization of electron devices have appeared and the flexibility of this tool has been proven. In this seminar the principal and more important application of Infrared Thermography are discussed.

In particular the application of this experimental technique, both in its transient and steady-state mode of operation, are reported and illustrated through a broad set of experiments and examples. Functional application to the characterization of VLSI devices,

application to the failure analysis of large area power devices, current monitoring in state-of-art heterojunction and organic devices prove the high potential of this technique.