Project:	**nanoCOPS - nanoelectronic COupled Problems Solutions**
Project Number:	**FP7-ICT-2013-11/619166**
Work Package:	**WP1 Time-domain Simulation of Coupled Problems**
Task:	**T1.5**
Deliverable:	**D1.4 First release of the electro-thermal simulation tool for power circuits**
Scheduled:	$T0 + 18$

Title:	**D1.4 First release of the electro-thermal simulation tool for power circuits**
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Date:	**March 31, 2015**

D1.4 First release of the electro-thermal simulation tool for power circuits

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1 Introduction

In Task 1.5, we developped a software tool that is suitable to simulate electro-thermal effects in power devices. During the simulation of the structure, a matrix is constructed that is used for parametrized Model Order Reducton in Task 1.3 and for UQ analysis in task T2.3. Results of this cross-workpackage work are described in D1.1. and D2.2.

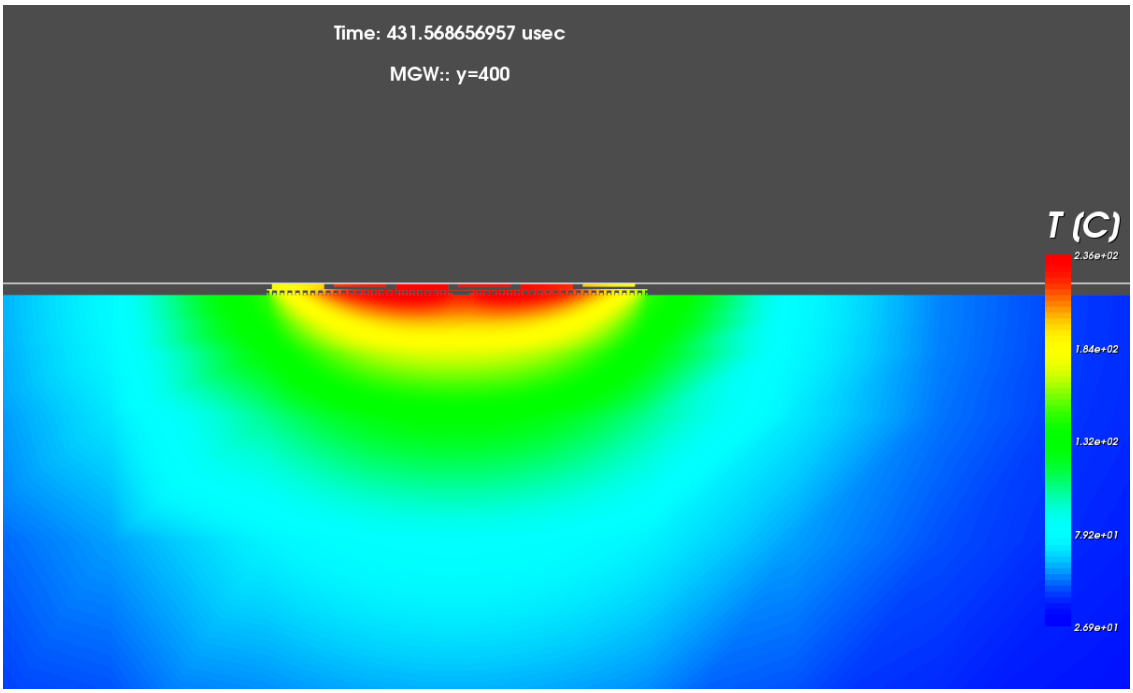

Figure 1: Cross section of the temperature distribution of a power device. It shows the heating at the device level.

2 Conclusions

The first release of the electrothermal simulations software for power devices is available. The implementation resulted in a successful run of the Powercell example delivered by an industrial partner (ONN). In this example the critical power devices were succesfully recognized, the structure could be simulated both statically as in transient mode. The substrate is included in the simulations and several thermal and electrical boundary conditions are available.