

PRESS RELEASE

PRESS RELEASE

June 20, 2018 || page 1 | 2

FRT GmbH and Fraunhofer ENAS present an optical surface measurement tool with a thermo unit for the characterization of the lateral and vertical deformation in nanometer range

The Fraunhofer Institute for Electronic Nano Systems ENAS presents, together with its project partners Chemnitzer Werkstoffmechanik GmbH and FRT GmbH, the optical surface measurement tool MicroProf® TL at the SENSOR+TEST 2018 in Nuremberg, Germany, from June 26 to 28, 2018. The MicroProf® TL will be displayed at the Fraunhofer pavilion number 5-248 in hall 5.

The MicroProf® TL is an optical surface measurement tool for fully automated 3D surface metrology in a variety of applications such as PCB design and simulation, 3D-IC, MEMS, stacked wafers and fault analysis among others. At the Fraunhofer pavilion, the equipment manufacturer FRT GmbH presents such a measurement tool as the latest member within the MicroProf® series.

The special feature of the MicroProf® TL is the thermo unit with a fully integrated heating and cooling plate. The temperature ranges from 10 °C (or -80 °C for liquid nitrogen cooling) to 400 °C, with fast heating/cooling rates and uniform temperature distribution over the sample surface. In addition to the topography measurements, the system can be extended by the microDAC® TL, a 2,5D deformation sensor from Chemnitzer Werkstoffmechanik GmbH. The high-precision camera set-up allows the measurement of global and local deformation fields with an accuracy of up to 50 nm. With the MicroProf® TL, it is therefore possible to characterize both lateral and vertical sample deformation under thermal load with the highest resolution of the measured value. Thus, this is the basis for determining the component behavior under working conditions and for simulating various process steps.

Fraunhofer ENAS is a referee lab and uses the obtained data to verify the simulations and to optimize the simulation models. Furthermore, the institute provides a catalog of requirements for the measurement set-up, which is further developed within the EU project TRACE.

IN COOPERATION WITH



Chemnitzer
Werkstoffmechanik GmbH

Person in charge

Marcus Hildebrandt | Fraunhofer Institute for Electronic Nano Systems ENAS | Phone +49 371 45001-432 |
Technologie-Campus 3 | 09126 Chemnitz | Germany | www.enas.fraunhofer.de | marcus.hildebrandt@enas.fraunhofer.de

Editors

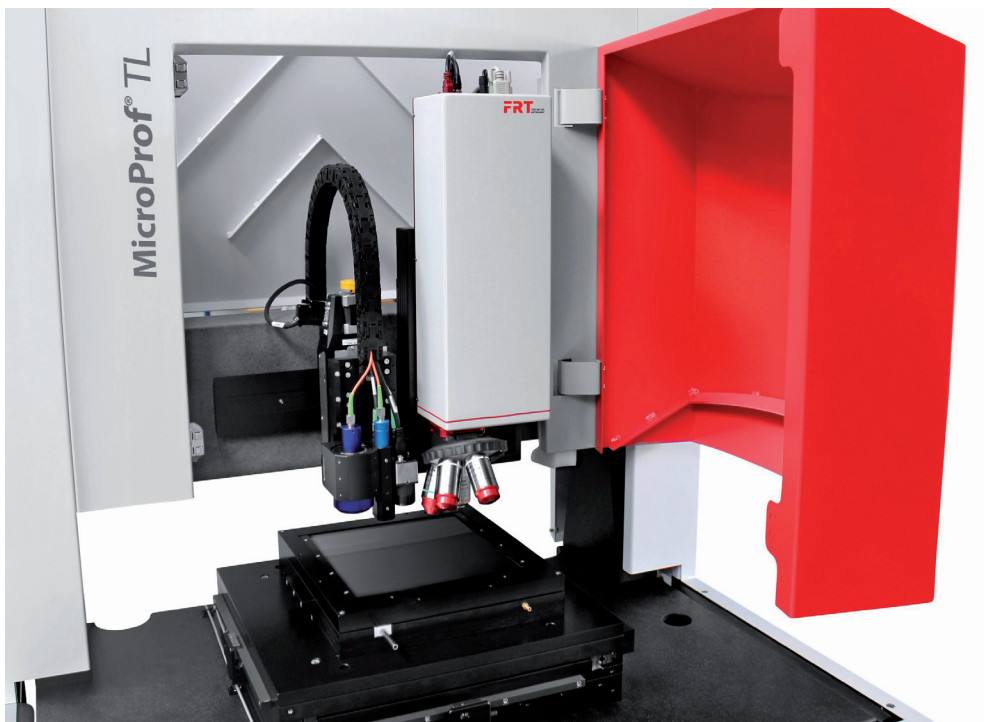
Dr. Martina Vogel | Fraunhofer Institute for Electronic Nano Systems ENAS | Phone +49 371 45001-203 |
Technologie-Campus 3 | 09126 Chemnitz | Germany | www.enas.fraunhofer.de | martina.vogel@enas.fraunhofer.de

FRAUNHOFER INSTITUTE FOR ELECTRONIC NANO SYSTEMS ENAS

The MicroProf® TL, as an innovative, adaptable and reliable system solution developed together with our cooperation partners, is one contribution of Fraunhofer ENAS within the scope of the Research Fab Microelectronics Germany. The ever-increasing complexity of microelectronic systems poses an enormous challenge for the design and the manufacturing of those systems. Novel requirements regarding energy efficiency, performance, size, and reliability must be taken into account from the very beginning. The measurement tool of the MicroProf® series supports the evaluation of reliability and service life while considering the requirements from the application point of view.

PRESS RELEASE

June 20, 2018 || page 2 | 2



The MicroProf® TL allows the characterization of both the lateral and vertical deformation of samples under thermal load with the highest resolution of the measured value in three spatial directions. In contrast to the other models of the MicroProf® series, the „TL“ is equipped with our Thermo Unit, an integrated heating and cooling plate, and optionally with the microDAC® TL deformation sensor provided by Chemnitzer Werkstoffmechanik GmbH. By operating the thermo unit, the behavior of modules under real working conditions can be determined and process steps under thermal load can be simulated. photo: FRT GmbH

For further information please visit www.frtmetrology.com.

**FRAUNHOFER ENAS IS
PARTICIPANT OF THE**



**Forschungsfabrik
Mikroelektronik**
Deutschland

The **Fraunhofer-Gesellschaft** is the leading organization for applied research in Europe. Its research activities are conducted by 72 institutes and research units at locations throughout Germany. The Fraunhofer-Gesellschaft employs a staff of more than 25,000, who work with an annual research budget totaling 2.3 billion euros. Of this sum, almost 2 billion euros is generated through contract research. Around 70 percent of the Fraunhofer-Gesellschaft's contract research revenue is derived from contracts with industry and from publicly financed research projects. International collaborations with excellent research partners and innovative companies around the world ensure direct access to regions of the greatest importance to present and future scientific progress and economic development.