Press release

Activating surfaces with flexible and compact plasma sources

At SEMICON Europa FBH will present a compact atmospheric plasma source in operation and further developments based on III-V electronics

Berlin, October 16, 2018
At the SEMICON Europa trade fair in Munich, the Ferdinand-Braun-Institut (FBH) will showcase new developments at the joint stand of »Research Fab Microelectronics« in hall A4, stand 504 from 13 to 16 November 2018.

Among others, the Berlin-based Leibniz institute will present a compact atmospheric plasma source that is suitable, for example, for the treatment of surfaces and for integration into production or process equipment. Test surfaces will be activated on-site in order to prepare them for printing or coating. The source in the 2.45 GHz ISM band comprises a microwave power oscillator, a resonator for plasma excitation and the control electronics, all integrated in a compact housing. Supply of the plasma medium (air, oxygen, argon, ...) and the cooling medium is flexible so that the source can be tailored both for manual use (e.g. in medicine) and for application in production or process machines (e.g. printing, coating systems). The plasma source achieves an output power in the plasma of around 20 W, which is sufficient for many applications.

In addition, an all-in-one pulse light source (PLS) will be shown that combines two core competencies of FBH: customized diode lasers for pulse generation combined with optimized high-speed driver electronics. PLS delivers high-precision pulses in the picosecond and nanosecond range with nano-joule energies. Pulse energy, pulse width, pulse spacing and repetition frequencies can be flexibly adapted. The laser system offers freely selectable repetition frequencies from the Hz to the MHz range and pulse peak powers of up to 50 watts. Via computer control, the all-in-one system can be operated in several pulse modes. Moreover, it can be easily integrated into various laser systems.

FBH will also present the demonstrator of a potential-free differential probe head for measuring high currents. With this measuring adapter for oscilloscopes, differential electrical signals in the frequency range from DC to over 1 GHz can be measured galvanically isolated – even when superimposed by a high common-mode voltage. Another exhibit will be hetero-integrated chips for terahertz applications, which combine the advantages of two technology worlds at chip level: the high output power of indium phosphide with the complexity of silicon technology.

Visit us at the joint booth of »Research Fab Microelectronics« (FMD) in hall A4, booth 504 (November 13.-16., 2018), Messe München.

The **corresponding press photos** are available for download. You may also choose images from our download center: https://www.fbh-berlin.com/press/download-center. Please observe the copyright.

Contact

Petra Immerz, M.A.
Communications Manager

phone 030.6392-2626
fax 030.6392-2602

Ferdinand-Braun-Institut
Leibniz-Institut für Höchstfrequenztechnik
Gustav-Kirchhoff-Straße 4
12489 Berlin

Email petra.immerz@fbh-berlin.de
Web www.fbh-berlin.com

About the Ferdinand-Braun-Institut

The Ferdinand-Braun-Institut, Leibniz-Institut fuer Hoechstfrequenztechnik (FBH) researches electronic and optical components, modules and systems based on compound semiconductors. These devices are key enablers that address the needs of today's society in fields like communications, energy, health, and mobility. Specifically, FBH develops light sources from the visible to the ultra-violet spectral range: high-power diode lasers with excellent beam quality, UV light sources and hybrid laser systems. Applications range from medical technology, high-precision metrology, and sensors to optical communications in space. In the field of microwaves, FBH develops high-efficiency multi-functional power amplifiers, and millimeter wave frontends targeting energy-efficient mobile communications as well as car safety systems. The FBH has a strong international reputation and ensures rapid transfer of technology by working closely with partners in industry and research. The institute has a staff of 290 employees and a budget of 33 million euros. It is part of the Forschungsverbund Berlin e.V., a member of the Leibniz Association and plays an active role in various networks.

www.fbh-berlin.com