T E C H N O L O G Y O F F E R

Multipole Resonance Probe
(MRP)

Description

Active plasma resonance methods provide an attractive approach to industry compatible plasma diagnostic. The plasma absorption probe is an important part of the plasma resonance spectroscopy method. Existing plasma absorption probes (PAP) proposed by Kokura et al. [1], have some essential disadvantages. For instance, the identification of the resonance depends on the interpretation. The observed spectra often defy the given analysis.
The invention refers to a new multipole resonance probe. The probe has a spherical symmetry which forces the resonance modes to correspond to the spatially well defined multipole modes. This makes an analytical evaluation of the resonance spectrum possible.

Application

- Plasma diagnostic
- Measuring of the electron density
- Low-pressure plasma

Advantage

- Signals can easily be interpreted without calibration
- The plasma is not contaminated by the MRP
- The MRP can not be contaminated during the process
- Compliant with the requirements of the process integration
- Economical (investment, footprints, maintenance)
- Robust and stable

Status quo

German patent application filed in March 2006 and issued in August 2007.
PCT-patent application filed in March 2007.

[1] H. Kokura et al., Japan, J. Appl. Phys. **38**, 5262, (1999)

Contact: **rubitec GmbH**
Dr. Thomas Zumbrink
Stiepeler Str. 129
44801 Bochum
Tel: **0234-32-11966 /-11935**
Fax: **0234-32-14194**
E-Mail: **thomas.zumbrink@rub.de**