

Press Release:

Next Generation C-doping Source for MBE

March 18th 2005

Germany – Weil der Stadt, MBE Komponenten, a manufacturer of molecular beam epitaxy (MBE) systems and components announces the availability of the next generation Carbon coping cell SUKO-D on CF 2.75 inch (DN40) or 4.5 inch (DN63) flange for p-type doping in GaAs/AlGaAs MBE.

The new SUKO-D is a highly optimised pyrolytic Graphite filament cell. The cell was carefully redesigned in collaboration with Prof. W. Wegscheider in the University Regensburg (Germany). In his high mobility MBE system he reproducibly achieves record hole mobilities of $1.2 \times 10^6 \text{ cm}^2/\text{Vs}$ in GaAs/AlGaAs quantum wells at a carrier density of $2.3 \times 10^{11} \text{ cm}^{-2}$ (see C.Gerl et al. to be published in Appl. Phys. Lett.). The quality of ultrahigh mobility electron heterostructures is not affected by the employment of the new Carbon doping cell.

The new SUKO-D uses a directly heated and specially pre-conditioned high purity pyrolytic Graphite filament which provides minimized heat load in the MBE system with long filament lifetime. It is easy to install and compatible to all commonly used MBE systems. It is particularly well suited for extremely high bulk doping levels up to 10^{20} cm^{-3} , sharp delta doping layers, modulation doping and low resistance p-type contact formation. The SUKO-D allows very fast temperature ramping and flux switching without any memory effect in the system. The applications range from MBE growth of III/V heterostructures for basic research to electronic and optoelectronic device fabrication as for example high power laser diode growth.

The new SUKO-D has already been shipped to several customers and is available now.

About MBE Komponenten GmbH:

MBE Komponenten based in Weil der Stadt, close to Stuttgart, Germany is specialized in MBE equipment. The product range includes various evaporation sources like effusion cells, dual dopant cells, valved crackers, e-beam evaporators and substrat manipulators, as well as MBE systems.

For more information please visit your web site at www.mbe-components.com

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