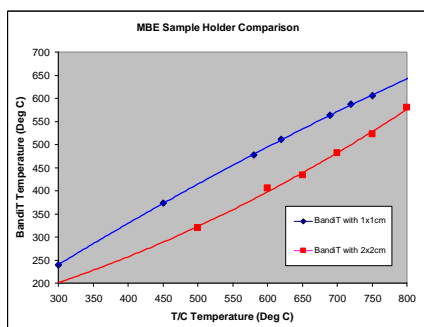


New! kSA Tech Support and Training In Your Lab - Anywhere and Anytime!

k-Space now offers worldwide remote technical assistance and training within your lab, as if we are standing right next to you! By using a simple Internet connection to your kSA computer, we can take control and work with you to perform technical training and troubleshooting. As always, our tech support is friendly and free, and our remote training packages are worth every penny! Please contact us for details.

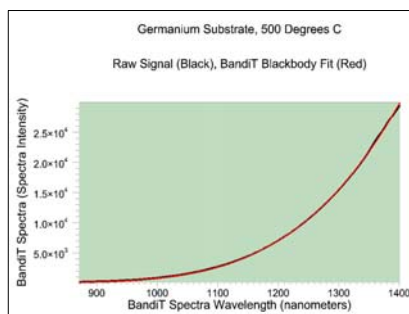
Dramatic MBE Substrate Holder Effects Measured with kSA BandiT

Most MBE reactors utilize a refractory metal substrate holding system (typically Mo) that attempts to minimize thermal contact with the sample while providing good IR coupling with the heater. However, when using fractional wafer sizes, sample size and loading procedures have profound impact on the actual sample temperature, even when the substrate heater TC reads the same temperature. Temperature variations of more than 60°C between 1cm x 1cm and 2cm x 2cm substrates were observed (see figure above) on an MBE reactor used for growth of GaAs related materials. Using BandiT the substrate set point can be adjusted to reach the proper growth temperature.



New! kSA BandiT BlackBody Temperature Monitoring Is Now Available!

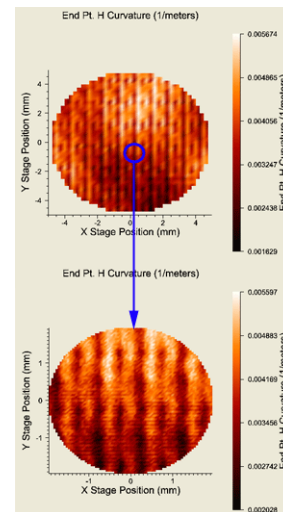
kSA BandiT now includes a novel BlackBody emission monitoring technology whereby the spectral radiation intensity of a sample is fit in real time to Planck's equation to determine temperature. Direct, in-situ calibration via kSA BandiT's band-edge technique or BandiT's high-temperature auto-calibration routine ensures utmost accuracy. By measuring sample radiation intensity across a broad range of emission wavelengths, emissivity changes are minimized while ensuring unprecedented temperature resolution (typically better than 0.1°C). kSA BandiT BlackBody technology is compatible with all semiconductor and non-semiconductor substrates, including metal films, from 300°C on up. Please contact kSA for more details or see kSA's new Technical Note on this patent-pending technology.



k-Space Associates, Inc.

kSA MOS Ultra-Scan Stress Mapping Gives Insight into Patterned Substrates

The kSA MOS Ultra-Scan has been used for curvature measurements on metal lithography patterned wafers. The high resolution resulting from the patented 2D laser spot array enables the measurement of localized curvature induced by the patterned metallization process on 200mm silicon substrates. Data shown here is taken with 250µm scan resolution (above) and 50µm resolution (below) with lighter regions identified as areas of higher stress when compared with bare samples. For additional details, please see kSA's tech note "200mm Patterned Silicon Wafers."



BandiT Runs Off With MBE!

One of our long-standing kSA BandiT customers, Prof. Tom Foxon of Nottingham University (UK), was recently quoted as saying, "I believe BandiT is the most important development for MBE since RHEED oscillations." Thanks, Tom!

Recent k-Space Product Installations

k-Space is proud to list the following successful installations:

- **Tokuyama Institute, Japan** - Combined kSA Mini-MOS and customer-supplied pyrometry system on custom MOVPE reactor;
- **University of Central Florida** - Combined kSA BandiT and RateRat for GaAs based VCSEL temperature and growth rate monitoring;
- **Sumika, USA** - kSA BandiT for GaAs/InP production MOVPE temperature monitoring across multiple system platforms;
- **University of Tokyo, Japan** - kSA BandiT for GaAs MBE temperature monitoring;
- **Centre for Free-Electron Laser Science, DESY Hamburg, Germany** - kSA MOS Ultra-Scan for high resolution mirror stress analysis

k-Space Appoints new Distributor in China

GiantForce

k-Space is pleased to announce that GiantForce Technology is now representing kSA products in China. GiantForce is a strong, technically-oriented company representing key principles targeted at R&D markets within China. k-Space is confident GiantForce will help provide kSA customers in China the highest level of local technical sales and support expertise. For inquiries, kSA customers may now contact:

Mr. Shawn Li
GiantForce Technology Co. Ltd., Beijing, P. R. China
Tel: 13911120013, +86-10-59073097 Fax: +86-10-59070311
Email: shawnli@giantforce.cn Website: www.giantforce.cn