k-Space News

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kSA is Hiring!

k-Space gratefully continues to experience growth in our company and product lines. We're looking to add a few exceptional team members to ensure our continuing commitment to outstanding customer support and innovative product development:

- Product Engineer
- Sales Engineer
- Technical Writer

Full position descriptions and requirements are posted on our <u>website</u>. If you or someone you know is just who we're looking for, please email us at <u>requestinfo@k-space.com</u> with the position name in the subject line.

kSA Mini-MOS now available for Aixtron CCS and Veeco MOCVD Systems!



Many of today's GaNbased materials grown by MOCVD are performed on Aixtron

CCS (formerly TSSE) and Veeco MOCVD systems. Until now, kSA Mini-MOS curvature and stress measurement was not possible on these reactors due to the very limited optical access (< 2.5mm clear aperture). kSA Mini-MOS has now been proven with optical access as little as 2mm (Mini-MOS CCS installation shown above) and rotation speeds of up to 1500 rpm (Veeco Turbodisk reactors). New optical head designs and data synchronization schemes have allowed for full integration of kSA BandiT into these MOCVD systems as well.

New Application! In-Line Solar Panel Production Monitoring with BandiT-PV!

Two of the industry's leading thin-film based photovoltaic materials

are Cadmium Telluride (CdTe) and Copper Indium Gallium DiSelenide (CIGS). k-Space has recently validated inline monitoring via the new kSA BandiT-PV process monitoring system on both foil and



glass substrates (~2um thick CIGS optical band gap spectra shown above). Now, real-time determination of optical band gap, film thickness, and surface roughness ensures yield and performance metrics are maintained throughout the solar cell manufacturing process. Multiple probe and linear scanning systems are also available. Please contact k-Space for more information or to perform an off-line test with representative PV samples. k-Space Associates, Inc.

Atomic Absorption Spectroscopy Flux Monitoring: Something for You?

kSA is currently developing a new, atomic absorption-based tool for accurate beam flux and growth rate determination, with emphasis on MBE applications. The goal is to provide more stable and accurate flux monitoring than traditional hollow-cathode lamp (HCL)-based systems that are currently available. If this is something that might be of interest to you, please send us a quick email at <u>requestinfo@k-space.com</u>, subject line "kSA AA" and tell us about your application (e.g., elements you'd like to monitor, etc.) We'll keep you updated on our development.

Recent k-Space Product Installations

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

- 1. PTB Braunschweig: kSA BandiT GaAs-based MBE growth
- 2. Confidential GaN HBLED Customer: kSA Mini-MOS for Veeco D-180 MOCVD system.
- 3. Confidential GaN HBLED customer: kSA Mini-MOS for TSSE MOCVD system.
- 4. Technical University Eindhoven: kSA BandiT with dual optics package for MOCVD and MBE systems.
- 5. Cornell University: kSA BandiT for SiC MOCVD.
- 6. AJA International: kSA MOS in-situ stress monitor for AJA sputtering system.
- 7. Brookhaven National Lab: kSA MOS on sputtering system for x-ray optics mirror fabrication.
- 8. Brown University: kSA MOS for electro-deposition stress monitoring.
- 9. IQE: kSA BandiT for GaSb-based MBE growth.
- 10. Naval Research Laboratory: kSA BandiT for GaSb MBE growth.
- 11. PVD Products: kSA 400 for high pressure RHEED analysis during sputtering.



See the k-Space Product Line in Action at the Following Upcoming Conferences:

15th International Conference on MOVPE May 23 – 28, 2010 Lake Tahoe, NV

InterSolar North America 2010 July 12 – 16, 2010 San Francisco, CA

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