



kSA BandiT Highlighted at MBE 2006

We're proud that kSA BandiT is helping the scientific community with MBE research, and we hope that the two papers presented this year in Tokyo lead to continued technology exchange.

Tom Foxon, University of Nottingham

"Use of bandgap thermometry to investigate the growth of GaN on sapphire and GaAs"

Optical measurements of substrate temperature during the growth by plasma-assisted molecular beam epitaxy (PA-MBE) of GaN on sapphire and 111B GaAs were presented using two commercial kSA BandiT systems for visible and infrared wavelengths.

Ian Farrer, Cambridge University

"Substrate temperature measurement using a commercial band edge detection system"

Optical temperature monitoring of GaAs substrates using kSA BandiT for band edge and integral pyrometry temperature measurements compared with standard NIR pyrometry. Semi-insulating, highly doped, and Indium bonded substrates were accurately measured.

Measure Thermal Stress During Annealing at 1000°C with kSA MOS Thermal Scan!

Compatible in a variety of inert and reactive gas environments, this fully integrated system (vacuum chamber, gas introduction, and heating stage) allows for complete kSA MOS analysis of thermally induced stress.

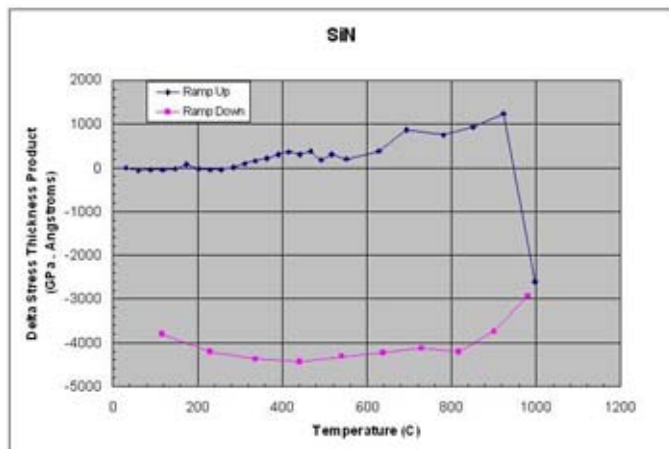


Figure 1: Temperature vs. Stress for SiN film deposited on silicon substrate during thermal ramp and cooling

New 532nm Green Laser Option for kSA RateRat Pro!

Real-time growth rate and optical constants with as little as 30nm of material deposition

For 25% faster fitting rates than our standard kSA RateRat Pro 660nm laser, k-Space now offers a 532nm laser for measuring GaN deposition. A 405nm laser is also available (but not applicable to GaN as at high temperatures the GaN is absorbing at this wavelength). Now, choose among three laser options for kSA RateRat Pro to match each application and material.

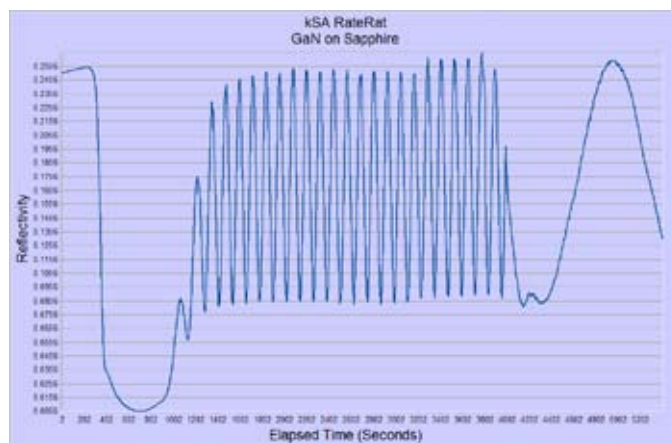


Figure 2: GaN reflectivity during MOCVD growth shows real-time change in growth rates

kSA Mini-MOS Proven for Aixtron R&D MOCVD Systems

The gas foil rotation used in most Aixtron R&D MOCVD reactors presents a challenge for accurate stress monitoring. This is due to varying wafer position during rotation. k-Space has now implemented new data processing routines to alleviate rotational frequency non-uniformities during stress monitoring, thus allowing for important stress information to be measured.



Come see us at the following upcoming conferences:

- Fall MRS Conference – Boston, MA, November 27 - December 1, 2006