k-Space Associates, Inc.

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kSA MOS Thermal Scan Now Available!

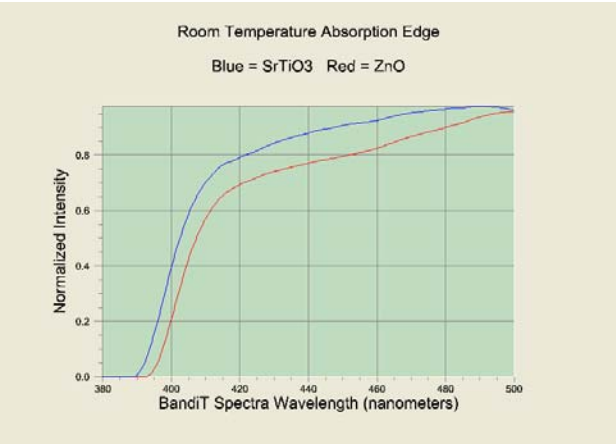
Introducing the MOS Thermal Scan for thermal stress analysis of wafer samples from RT-1000°C. The MOS Thermal Scan provides a high thermal uniformity vacuum heating system with inert gas introduction. Coupled with patented MOS technology—the highest stress resolution available today—this new system provides complete dynamic and static thermal stress analysis of samples up to 100mm in diameter.

New kSA MOS Thermal Scan provides both dynamic and static thermal stress analysis.

Please contact us for more information.

Measure $SrTiO_3$ and ZnO Wafer Temperature with kSA BandiT!

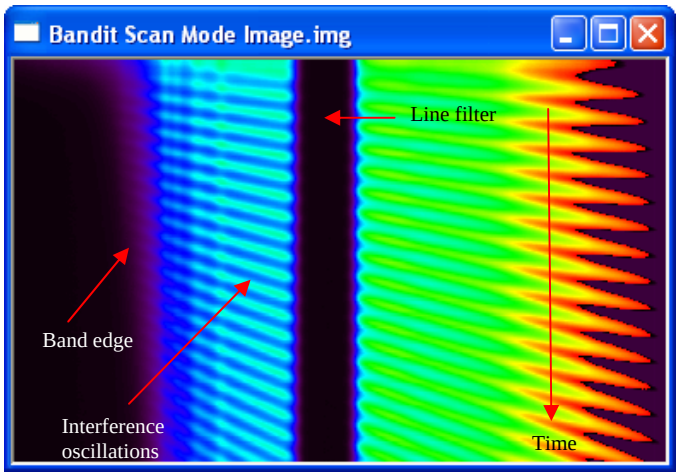
We have successfully used the BandiT visible (B-VIS) unit for accurate and reproducible wafer temperature monitoring on ZnO and $SrTiO_3$ substrates. These are wide band gap materials, similar in band gap energy to GaN. Standard pyrometry or emissivity corrected pyrometry (ECP) simply won't work on these materials as, due to their wide band gap, they are transparent at standard pyrometer wavelengths. No problem for BandiT, however, as we measure the temperature-dependent band edge of the material.



SrTiO3 (blue) and ZnO (red) absorption edge at room temperature, measured with the BandiT visible unit.

Film Thickness with kSA BandiT!

Because BandiT utilizes a solid state spectrometer, in addition to band gap measurement, we also see pyrometric oscillations in the below-gap (long wavelength) spectra. In the picture above, full spectra are stacked in time as you go from top to bottom of the image. You can see the band edge shifting as the sample gets hotter, and you can also see pyrometric interference oscillations in the below-gap data. From these below-gap oscillations, the film growth rate and total thickness can be accurately determined.



Scan Mode Image showing evolution of BandiT diffuse spectra during film deposition. Oscillations in below-gap intensity are used to extract growth rate and film thickness.

Multi-wafer Software for BandiT and RateRat Pro Now Available!

kSA BandiT and kSA RateRat Pro are now available in multi-wafer versions that separate the data from each wafer based on platen rotation. Triggering can be based either on a "home" pulse acquired once per rotation, or on individual encoder pulses. Unlimited data markers can be positioned around the platen, allowing for simultaneous measurement at wafer center, wafer edge, or anywhere in between.

See the k-Space product line in action at the following upcoming conferences:

7th International Conference of Nitride Semiconductors
Las Vegas, Nevada, U.S.A.
September 17-20, 2007

25th North American Molecular Beam Epitaxy Conference
Albuquerque, New Mexico, U.S.A.
September 23-26, 2007

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