



kSA Mini RateRat – Good Things Come in Small Packages!

We have developed a mini version of our kSA RateRat deposition monitor. The unit, shown at right, can be held in the palm of your hand, and performs real-time deposition rate and optical constant monitoring just like its bigger brother. The Mini RateRat unit is designed for normal incidence applications, including mounting onto the mini-conflat or similar optical access ports found on many MOCVD reactors. Within the unit is a focusing lens for handling variation in reflection angle due to substrate wobble.

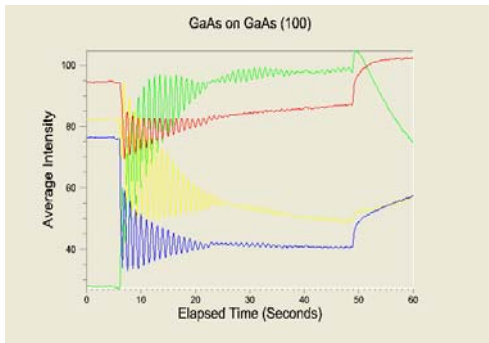


Soon To Come – Mini MOS!

The little brother to our popular kSA MOS *in-situ* stress measurement tool, Mini MOS will have applications in MOCVD as well. Look for details in our next newsletter.

Tech Tips – kSA 400

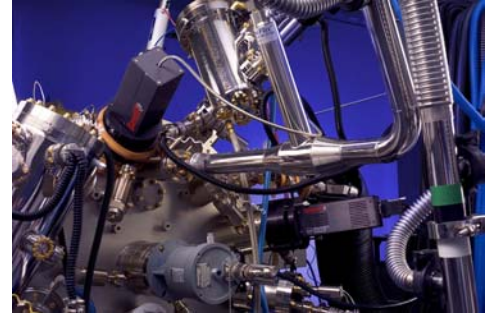
Did you know that the kSA 400 has three independent methods for calculating growth rate? Once acquiring your RHEED oscillation data, you can run the Growth Rate FFT, Extrema Count (1st derivative analysis), and Damped Sine Wave Fit algorithms to determine your deposition rate, and you can simultaneously compare the results from each method. Furthermore, the Extrema Count method can tell you about the variation of the rate during the run, and the Damped Sine Wave Fit can give you a relative measure of the damping, i.e. the surface roughening, during the deposition. Please contact us for a help document on these methods.



Let That BandiT Run!

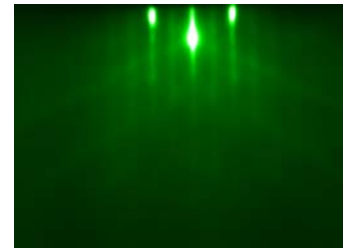
The kSA BandiT temperature monitor has been creating quite a stir in the semiconductor community. It's ease of use, low temperature capability, and absolute temperature determination make it a powerful substrate temperature measurement tool. But we still hear from those who believe an emissivity-corrected pyrometer can do the same job as BandiT: not true!

Emissivity correction does not account for erroneous contributions to pyrometer signal from hot sources, substrate heater filaments, and coated windows, leading to large errors in temperature measurement. BandiT is immune to all these things because it is based on a band edge measurement, not an intensity measurement.



RHEED Simulation Software For 2nd Quarter 2005!

Well, we're finally buckling down and completing our RHEED simulation software Plug In for the kSA 400. We are using a kinematic scattering model to generate RHEED patterns based on user-selectable input parameters, including surface structure, incidence angle, and beam energy. We are also implementing RHEED texture analysis for polycrystalline films, as more and more people are using RHEED in high-pressure applications like PVD and sputtering. If you'd like details on pricing and capabilities, please contact us!



Support, Support, Support

One of the strengths of our company is continuous support of all our products. Please don't hesitate to contact us with any questions or concerns. Your input and feedback is greatly valued. We listen to your comments and often implement your suggestions into our products.

Richard Thomson Associates (RTA) Busy in Europe

Hats off to RTA, who have been very busy demonstrating our products in Europe. Labs they have visited in the last two months include PicoGiga, Bookham Technology (Switzerland), ETH Zurich, Alcatel, and Tampere University (Finland).

Happy Holidays!

From the entire staff at k-Space, we wish you a safe and enjoyable holiday season. We will be enjoying the season too, and will be closed December 18th thru January 2nd.