



OptoMetrix, Inc.

Technology Newsletter Q1, 2001

President's Message

The purpose of this newsletter is to keep you up-to-date on the latest technical developments at OptoMetrix. I hope that you find it of value and perhaps you will pass it on to a colleague with similar interests. Feedback, both positive and negative, is always appreciated. I can be reached at rafalk@optomet.com.

R. Aaron Falk

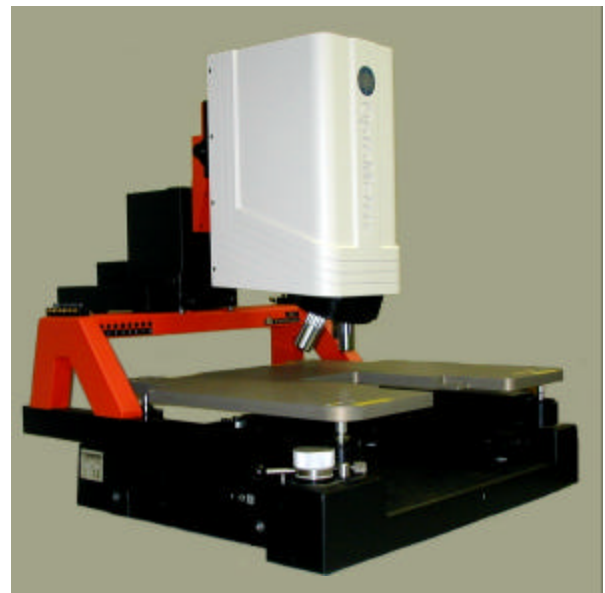
STM and Confocal Systems Integrated Onto Karl Suss Probe Stations

OptoMetrix and Karl Suss America (KSA) have teamed together to combine our optical heads (STM and confocal) onto a KSA probe station. This combination yields a powerful platform for examination of chips, dice, and wafers. KSA also supplies an integrated air table for vibration isolation and light-tight cover for eye-safety producing a complete opto-mechanical package.



Optical Head with Motorized Turret and Long Working Distance Objectives

Control software has been integrated onto single computer, which operates both the optical head and the probe station. The first unit with these features and an STM head was delivered to IBM this past February.

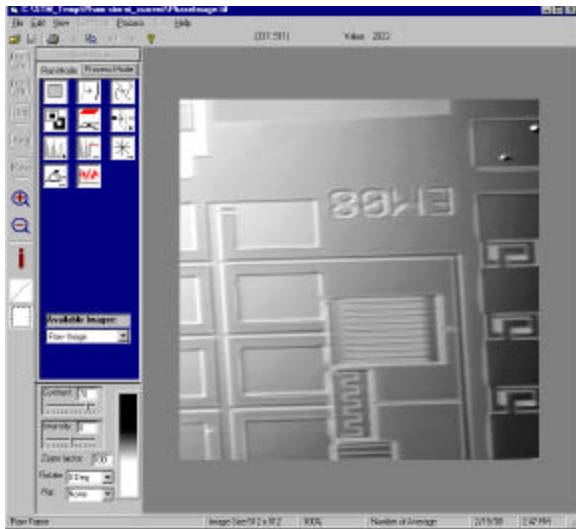


OptoMetrix Optical Head Integrated Onto Karl Suss Probe Station.

Topside Schlieren Thermal Mapping Demonstrated

Our Schlieren Thermal Mapper (STM) was initially developed as a backside tool. In that mode, the refractive index change with temperature in the silicon substrate is utilized as the thermal "sensing" element. Topside STM operation has been demonstrated by placing a sensing layer onto the upper surface. Although in its early stages, the technique has already demonstrated significantly improved sensitivity over backside STM.

The current near IR version of the STM can be utilized in both backside and topside modes. There is also the potential to develop a topside only instrument with two to three times better imaging resolution. A topside optimized STM is expected to have superior (factor of 10 or better) spatial resolution and temperature sensitivity to liquid crystal thermal imaging. In addition, the STM does not require use of a thermal chuck, and has a linear response with temperature.



Main OptoVision Image Processing Screen

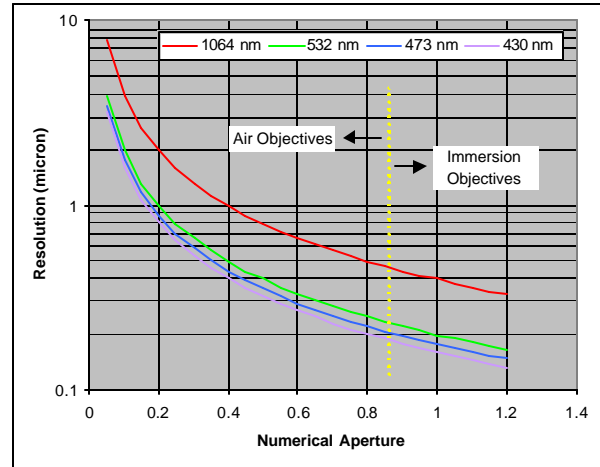
Version 2 of OptoVision Rolled Out

Version 2 of our image acquisition and control software, officially named OptoVision, is now fully operational and in the hands of a customer for final testing. This new version offers significant improvements over Version 1, including a full macro language, picture-in-picture viewer, and image management /processing tools. An important internal improvement is the elimination of a third-party software tool that was proving to be a significant development bottleneck.

Green Laser Confocal Operation

Operation of our confocal, laser-scanning microscope has been successfully demonstrated in the green (532 nm). The shorter wavelength is only

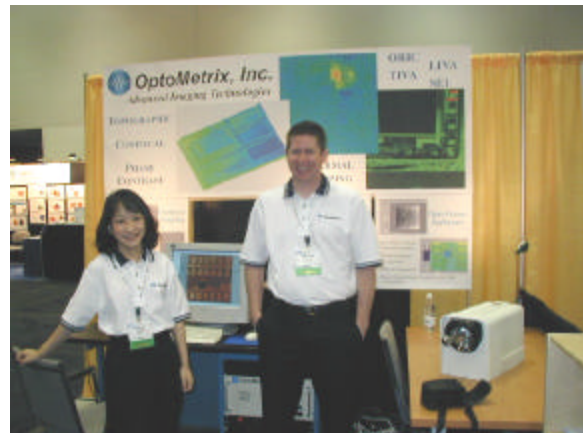
effective for topside imaging, however, it allows a factor of two or better improvement in resolution over our IR backside system. The system can be used for topside OBIC, LIVA, TIVA, and SEI. Custom options for blue operation (473 nm and 430 nm) are also available.



Graph of resolution of confocal microscope versus objective numerical aperture.

ISTFA Show a Success

Our booth at the International Society for Testing and Failure Analysis (ISTFA) conference in November was a great success. Attendance at the show was a record high, and we experienced non-stop traffic at our booth. Thanks to all of those who stopped by.



*Optometrix Booth at ISTFA With Tram Pham
(Left) And Robert Millard (Right).*