

# ScatterMaster

ScatterMaster™ was originally developed to be applied to several available research instruments (not described here) employing CCD cameras to gather and quantify hemispherical scattering data as a stand alone analysis software package.

Because it also does the analysis for ScatterScope™, which can be used on the production floor, its use in the lab helps bridge the gap to the production floor.

The program first converts the thousands of image data points into standard scatter measurement units, and then reduces them to a programmable number of preferred signals.

This is done using a flexible software program that can adjust the choice and weight of preferred signals based on the combined experience of the system inventors and the product manufacturer.

A database of preferred signals is created by “teaching” the system good, marginal and rejected samples as identified by the manufacturer.

The preferred signals, measured from production parts, are analyzed using a proprietary sorting code to find the probability that a sample is “in-tolerance” or in a defined “out-of-tolerance” condition.

The goal is to be able to identify specific production issues (such as coating holes, heavy brushing, etc.). The set up procedure is repeated for each type of production part that is to be monitored.

Thus the system combines the production experience and requirements of the manufacturer with the quantified data and scatter metrology experience of the system inventors.

When working within ScatterScope™ the measurement and analysis requires less than a second to identify a surface type so the process is virtually real time and can be used to identify production drift towards specific out-of-tolerance problems, and allow process correction before scrap product is manufactured.