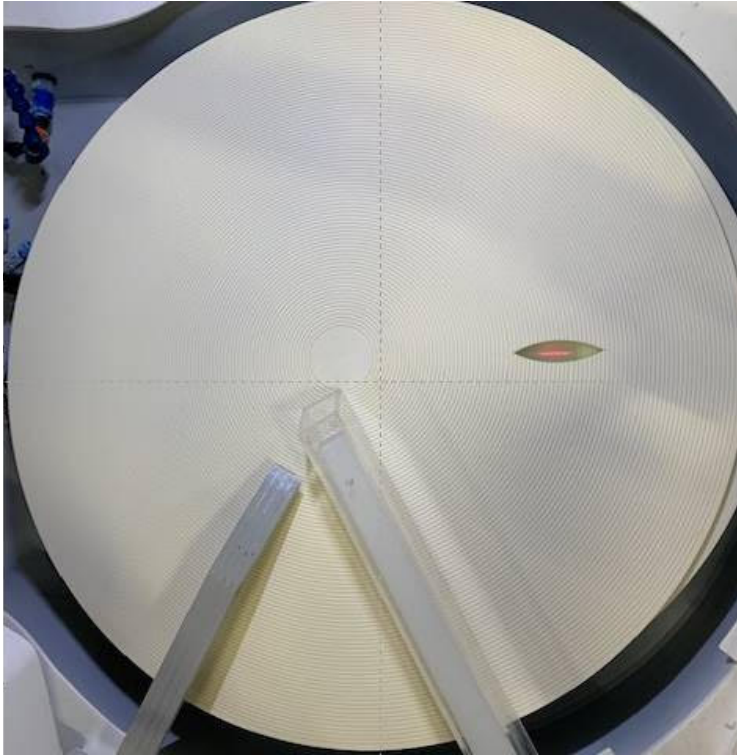


Optical EndPoint Determination System (OEPD)



The Axus Technology Optical EndPoint Determination system (OEPD) is a full-wafer scan system capable of detecting the endpoint of the chemical mechanical polishing process on typical wafer surfaces which have a deposited thin conducting or insulating film. This prevents under-polish which is time consuming to correct and over-polish which causes waste and elevated total cost of ownership of the CMP process.

When integrated into new CMP polishers from Axus Technology such as the Capstone CMP tool, and legacy CMP polishers refurbished by Axus Technology including those originally from Speedfam/IPEC, Strasbaugh, and others, this mechanism is designed to run in-situ while the polishing process is underway.

The reflectometer is embedded in the polishing platen. Commercially available polishing pads which have a “window” for laser projection are available from multiple vendors.

Material Examples

- **Copper CMP:**

In the copper CMP process for example, the system will detect a change in reflectivity values from different parts of the wafer surface. This indicates that a clearing of the copper film is taking place. This continues until full clearing of the copper is achieved.

- **Oxide CMP:**

This is a different process because in oxide CMP, it is necessary to polish to a specific predetermined point and then stop at the desired thickness specification. This is achieved by using the Axus Technology OEPD System.