

ABSTRACT

5 A method of estimating a film-thickness difference between multiple films
constituting a workpiece during polishing of the workpiece is disclosed. The film-
thickness difference estimating method includes: producing multiple measurement spectra
of reflected light from the workpiece at the same polishing time while polishing the
workpiece, the workpiece having a first film and a second film made of different materials;
10 inputting each of the multiple measurement spectra into a classification model; outputting
a classification result indicating that each of the multiple measurement spectra has been
classified into either a first group or a second group from the classification model;
inputting a measurement spectrum classified into the first group and a measurement
spectrum classified into the second group into a film-thickness estimation model;
15 outputting an estimated film thickness of the first film and an estimated film thickness of
the second film of the workpiece at the polishing time from the film-thickness estimation
model; and calculating an estimated film-thickness difference between the first film and
the second film of the workpiece at the polishing time by subtracting the estimated film
thickness of the second film from the estimated film thickness of the first film.

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FIG. 13