

ABSTRACT

An object is to accurately measure thickness of a film, which is an object of polishing, during polishing of a substrate. A substrate polishing apparatus comprises: a polishing table which is provided with an eddy current sensor and constructed to be able to rotate; a polishing head which is arranged to face the polishing table, constructed to be able to rotate, and constructed to allow a substrate to be attached to a surface facing the polishing table; and a controller. The controller is constructed to obtain pieces of waveform data of output signals of the eddy current sensor when the eddy current sensor has passed multiple paths on the substrate; identify, in the multiple paths on the substrate, mutually corresponding multiple points that are in positions at same distances from the center of the substrate; compare values of the output signals of the eddy current sensor obtained at the identified multiple points to thereby find a minimum value; correct the pieces of waveform data based on the found minimum values; and calculate thickness of a film on a surface of the substrate, based on the corrected pieces of waveform data.

Fig. 7