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(54) PLASMA PROCESSING APPARATUS AND PLASMA PROCESSING METHOD

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(57) **ABSTRACT**

A plasma processing apparatus and method in which light with a plurality of wavelengths from a surface of a wafer at a plurality of predetermined times during processing for the wafer as the processing target is received, and when a processing amount is detected by using a result acquired by comparing data indicating intensities of the received light with the plurality of wavelengths with comparative data acquired in advance and indicating intensities of the light with the plurality of wavelengths, a similarity in wafers is quantified based on the data indicating the intensities of the light with the plurality of wavelengths of light, and the processing amount is detected by comparing at least one piece of data selected according to the quantified similarity with the data indicating the intensities of the light with the plurality of wavelengths acquired during the processing for the plurality of wafers.

