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(54) **SURFACE FORCE MEASURING METHOD AND SURFACE FORCE MEASURING APPARATUS**

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See application file for complete search history.

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(57) **ABSTRACT**

The present invention provides a method and an apparatus for measuring a force (which will be referred to as surface force) acting between two material surfaces. A surface force measuring method includes moving an object (**1**) toward a probe (**4**) until the probe (**4**) is adsorbed to the object (**1**), then applying a load from an electromagnetic-force generator (**20**) to a supporting member (**6**) in a direction as to separate the probe (**4**) from the object (**1**) while gradually increasing an electric current supplied to the electromagnetic-force generator (**20**), obtaining a value of the electric current supplied to the electromagnetic-force generator (**20**) when the probe (**4**) is separated from the object (**1**), and converting the value of the electric current into a surface force acting between the probe (**4**) and the object (**1**).

10 Claims, 5 Drawing Sheets