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INTERATOMIC FORCE MICROSCOPE AND SAMPLE OBSERVING METHOD THEREFOR

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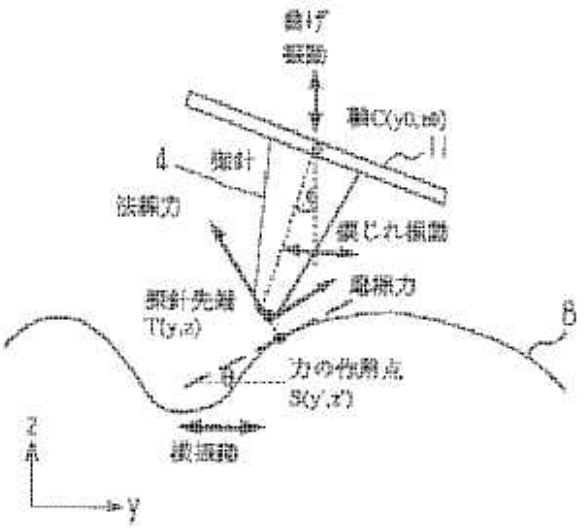
Abstract of JP 6323834 (A)

PURPOSE:To provide a measuring technology for interatomic microscope in which the irregularities of a sample can be separated well from the frictional force. CONSTITUTION:An oscillator for causing lateral oscillation relatively between a sample 8 and a probe 4 is provided. The sample 8 is oscillated laterally to excite bending or torsional oscillation in a cantilever 11. The phase and the amplitude of the oscillation thus excited are measured simultaneously and the measurements are employed in the formation of oscillation amplitude image and oscillation phase image. When the sample 8 is oscillated laterally, bending displacement and torsional angle of the cantilever 11 oscillate around the balance position thereof. The amplitude and phase of torsional oscillation are affected significantly by the frictional force as compared with the gradient.; Consequently, an image reflecting the frictional force significantly can be obtained by measuring and recording the amplitude and phase of torsional oscillation.



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