AFM의 인력-거리 곡선 분석시 접근속도의 의존성

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The force-distance (F-D) curve in AFM analysis is a useful technique in the field of biophysics and surface science for measuring the physical/chemical properties of a substrate. The dependence of Vz on the F-D curve has been described via a theoretical investigation confirmed with measured data. The attractive force was gradually reduced above a Vz of 5 µm/s by increasing the external repulsive force loaded onto the cantilever. To obtain a non-distorted F-D curve, one of two methods should be used: to analyze F-D curve under Vz of 1 µm/s or use of a short/stiff cantilever.