

ATOMIC FORCE MICROSCOPY FOR ENVIRONMENTAL RESEARCH AND ASTROBIOLOGY

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In this work we present the data of application the scanning probe microscopy techniques for indication of living bacterial cells in soil, permafrost and ground ices. Only complex of atomic force microscopy modes might help to solve this complicated task, namely: force curve mapping, measuring adhesion properties of cells and mineral particles, liquid experiments, treatment of cells by various medicals and chemicals etc. Atomic force microscopy is perspective for studying biological processes *in situ*: cell multiplication, cell differentiation, cell morphology research. Analysis of force curve mapping and measuring adhesion properties of some strains of sporeforming and non-sporeforming bacteria isolated from permafrost, ice and soil gives useful criteria for direct microbial investigation in natural environment.