Abstract Submitted
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Surface Morphological Studies on Nerve Cells by AFM GOKSEL DURKAYA, Department of Physics & Astronomy, Georgia State University, LEI ZHONG, VINCENT REHDER, Department of Biology, Georgia State University, NIKOLAUS DIETZ, Department of Physics & Astronomy, Georgia State University — Surface morphological properties of fixed and living nerve cells removed from the buccal ganglion of *Helisoma trivolvis* have been studied by using Atomic Force Microscopy (AFM). Identified, individual neurons were removed from the buccal ganglion of *Helisoma trivolvis* and plated into poly-L-lysine coated glass cover-slips. The growth of the nerve cells was stopped and fixed with 0.1% Glutaraldehyde and 4% Formaldehyde solution after extension of growth cones at the tip of the axons. Topography and softness of growth cone filopodia and overlying lamellopodium (veil) were probed by AFM. Information obtained from AFM's amplitude and phase channels have been used for determination of softness of the region probed. The results of structural studies on the cells are linked to their mechanical properties and internal molecular density distribution.

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