

Abstract Submitted
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Axial-scanning techniques for multiphoton imaging¹ MICHAEL YOUNG, ERICH HOOVER, ERIC CHANDLER, JEFFREY FIELD, JEFF SQUIER, MOABC, CENTER FOR MICROINTEGRATED OPTICS FOR ADVANCED BIO-IMAGING AND CONTROL TEAM — We have developed a novel multiphoton imaging system that is capable of imaging multiple focal planes simultaneously. In this talk, we describe a new method that enables us to electronically control the offset of the focal planes by up to 80 micrometers with little or no degradation in focus (diffraction-limited sectioning is maintained as the focal planes are shifted). This method of shifting the focus will enable access to arbitrary focal planes, e.g., focal planes that are rotated with respect to one another. By exploiting this new capability, this microscope will greatly facilitate the study of biological systems.

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