Optical Slice Motion Tracker

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Technology description

Summary

Available for licensing and commercial development is an apparatus that adjusts the focal plane of a microscope in order to track plane motion of a sample. The apparatus includes a motor that can change the focal plane by moving the objective of the microscope and a computer that reads image data from the microscope photomultiplier tube (PMT). The apparatus uses time between images to perform a navigator function comprising quickly scanning many nearby focal planes with a minimum field of view and utilizing pattern matching to calculate an offset distance to adjust the focal plane. The apparatus permits imaging of moving structures, such as living tissue, over time by compensating for motion in the direction of the focal plane. The use of navigator movement to track an optically selected slice can be implemented in any of various research or medical devices.

Application area

Microscopy
Cell biology

Institution

NIH - National Institutes of Health

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