Title	**Confocal Brillouin microscopy for three-dimensional mechanical imaging**
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Abstract	Acoustically induced inelastic light scattering, first reported in 1922 by Brillouin[1], allows non-contact, direct readout of the viscoelastic properties of a material and has widely been investigated for material characterization[2], structural monitoring[3] and environmental sensing[4]. Extending the Brillouin technique from point sampling spectroscopy to imaging modality[5] would open up new possibilities for mechanical imaging, but has been challenging because rapid spectrum acquisition is required. Here, we demonstrate a confocal Brillouin microscope based on a fully parallel spectrometer—a virtually imaged phased array—that improves the detection efficiency by nearly 100-fold over previous approaches. Using the system, we show the first cross-sectional Brillouin imaging based on elastic properties as the contrast mechanism and monitor fast dynamic changes in elastic modulus during polymer crosslinking. Furthermore, we report the first *in situ* biomechanical measurement of the crystalline lens in a mouse eye. These results suggest multiple applications of Brillouin microscopy in biomedical and biomaterial science.
Laser Quantum Product	Torus 532nm
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