

Laboratory Demonstration of the Piezoelectric Figure Control of a Cylindrical Slumped Glass Optic

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The X-ray Surveyor is a mission concept for a next generation X-ray observatory. This mission will feature roughly 30 times the effective area of the Chandra Observatory while matching its sub-arcsecond angular resolution. The key to meeting these requirements is lightweight, segmented optics. To ensure these optics achieve and maintain sub-arcsecond performance, we propose to use piezoelectric coatings for post-bonding and on-orbit figure correction. We have fabricated a cylindrical prototype optic with piezoelectric adjusters and measured its performance using optical metrology. We present the results of this experiment and discuss their implications for an observatory featuring adjustable X-ray optics.