

**Figure 1:** Schematic of electro-chemo-mechanical testing apparatus. Steps in Voltage or Current are triggered from the workstation via the digital output (DIO). The resulting forces, currents and voltages are recorded on the work station via the analog to digital converters (ADC). Strain is applied via computer control of the stepping motor through step and direction DIO channels.



**Figure 2:** Strain in an encapsulated linear actuator with 2 *MPa* applied stress, in response to a  $\pm 20$  *mA* current.

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**Figure 3:** Decay in strain over five cycles in an encapsulated linear actuator with 2 *MPa* applied stress, in response to a  $\pm 20$  *mA* current.