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A two dimensional piezoeletric micro-positioner[1] K.-W. NG, JOHN NICHOLS, J. W. BRILL, University of Kentucky — A scanning probe microscope can provide very high resolution imaging, but only within a small scanning area. There is a high demand for compact long range positioners, so that distant locations on the same sample can be imaged and studied. We will present information on the design and operation of a piezoelectric driven two-dimensional micropositioner that can provide long range motion in the x- and z-directions. The z-direction motion can be used for coarse approach, while the x-direction motion can be used to scan along the sample surface. The device is build as one single unit, so it is extremely compact and rigid, and can provide a high resonance frequency platform for high performance scanning probe microscopy.

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