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## **Design and Operation of a 2d thin film semiconductor neutron detector for use as a beamport monitor**

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Silicon based diodes coated with a thin film of neutron reactive materials have been shown to produce excellent low efficiency neutron detectors. This work employs the same technology, but groups 25 equally sized and spaced diodes on a single 29 mm by 29 mm chip. The 5x5 chips have been fabricated and coated with a thin film of  $^6\text{LiF}$  for use as a low efficiency neutron beam monitor. The 5x5 neutron detector array is coupled to an array of pre amplifiers allowing the response to be interpreted using a LabVIEW FPGA. The 5x5 array has been characterized in a diffracted neutron beam. This work is part of on-going research to develop various designs of high and low efficient semiconductor neutron detectors.

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