

GEM foil stretching using a low-cost infrared heating array. E. ESPOSITO, E. MAKI, and M. HOHLMANN.  
Department of Physics and Space Sciences, Florida Institute of Technology, 150 West University Blvd, Melbourne, FL 32901. The even stretching of gas electron multiplier (GEM) foils is a crucial component in the construction of GEM detectors. However, as the size of GEM foils has increased, so has the cost and complexity of the methods usually employed for stretching and framing them. In response to this, a low-cost method of foil stretching has been developed which utilizes an array of infrared heating lamps suspended over a plexiglas frame. We have modified this technique, successfully used previously to construct two 30 cm  $\times$  30 cm triple-GEM detectors, to work consistently for larger 1 m  $\times$  50 cm GEM foils at 35°C. Results will be discussed and compared with the heating process, temperature uniformity, and long-term stability of previous incarnations of such an array.