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Thomson Parabola Ion Energy Analyzer JAMES COBBLE, SAM LETZRING, FRAND LOPEZ, Los Alamos National Laboratory — A new, versatile Thomson parabola ion energy (TPIE) analyzer has been designed and constructed for use at the OMEGA-EP facility. Multi-MeV ions from EP targets are transmitted through a W pinhole into a (5- or 8-kG) magnetic field and subsequently through a parallel electric field of up to 24 kV/cm. The ion drift region may have a user-selected length of 10, 50, or 80 cm. With the highest fields, 500-MeV C^{6+} and C^{5+} may be resolved. TPIE is TIM-mounted at OMEGA-EP and can be used opposite either of the EP ps beams. The instrument runs on pressure-interlocked 15-VDC power available in EP TIM carts. It may be inserted to within several inches of the target to attain sufficient flux for a measurement. For additional flux control, the user may select a square-aperture W pinhole of 100 μm or 250 μm. The detector consists of CR-39 backed by an image plate. The fully relativistic design code and design features will be discussed. Ion spectral results from first use at OMEGA-EP are expected.

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