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Overview of diagnostic implementation on Proto-MPEX at ORNL[1] T.M. BIEWER, T. BIGELOW, J.B.O. CAUGHMAN, D. FEHLING, R.H. GOULDING, T.K. GRAY, R.C. ISLER, E.H. MARTIN, S. MEITNER, J. RAPP, E.A. UNTERBERG, Oak Ridge National Lab., R.S. DHALIWAL, Univ. of Michigan, D. DONOVAN, N. KAFLE, H. RAY, G.C. SHAW, M. SHOWERS, Univ. of Tennessee, Knoxville, R. MOSBY, C. SKEEN, Oak Ridge High School — The Prototype Material Plasma Exposure eXperiment (Proto-MPEX) recently began operating with an expanded diagnostic set. Approximately 100 sightlines have been established, delivering the plasma light emission to a "patch panel" in the diagnostic room for distribution to a variety of instruments: narrow-band filter spectroscopy, Doppler spectroscopy, laser induced breakdown spectroscopy, optical emission spectroscopy, and Thomson scattering. Additional diagnostic systems include: IR camera imaging, in-vessel thermocouples, ex-vessel fluoroptic probes, fast pressure gauges, visible camera imaging, microwave interferometry, a retarding-field energy analyzer, rf-compensated and "double" Langmuir probes, and B-dot probes. A data collection and archival system has been initiated using the MDSplus format. This effort capitalizes on a combination of new and legacy diagnostic hardware at ORNL and was accomplished largely through student labor.

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