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Diagnostic System for PMI Linear device

The Plasmas Material Interaction (PMI) Linear device, the only linear device in Thailand, is a plasma source that generating plasma by using helicon wave and maintaining plasma beam by using a strong magnetic field to reduce particle loss. The main purpose of PMI linear device is to serve as a material testing device. In order to serve its purpose, its plasma parameters and characteristic must be well-identified. Thus, the plasma diagnostic system of PMI linear is needed. Langmuir probe (LP) and Local Optical Emission Spectroscopy (OLES) are the main diagnostics to measure the plasma property including plasma density and plasma temperature that can be measure as a function of plasma radius. The plasma beam current is measured by the faraday cup. The property of plasma and beam is the variable parameter that can be used to test the material to qualify the property and increase require the material property for the fusion device such as the inner wall, limiter, diverter, device windows, and measured host material.

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