

Abstract Submitted
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Diagnostic System Plans for the DIII-D National Fusion Facility¹ R.L. BOIVIN, General Atomics, FOR THE DIII-D TEAM — The long term focus of the DIII-D program is the Advanced Tokamak (AT). The attainment of the full potential of the AT will require new sophisticated measurement capabilities which can lead to an increased understanding in the transport, stability, current drive and boundary science areas. In the transport area, we plan to integrate diagnostics to look at zonal flows, high-k turbulence and eventually turbulence imaging, which are aimed at studying, for example, electron heat transport. On the stability side, many systems are being planned or deployed, including a high-resolution edge current density measurement, 3-D equilibrium reconstruction systems, multiple ECE views and fast ion profile measurement. In an effort to optimize the current drive efficiency, new diagnostic techniques are envisioned to study the fast electron population through current profile measurements and/or by looking directly at the electron velocity distribution. In the boundary area, the measurements of flow and ion temperature in the divertor using a DNB and CER systems remain the highest priority. Impurity and neutral transport will also be studied using new imaging techniques. Details of the new systems and their implementation will be shown.

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- Prefer Oral Session
 Prefer Poster Session

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