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**DIII-D Research Program Status and Plans,<sup>1</sup>** T.C. SIMONEN FOR THE DIII-D TEAM, General Atomics — Recent DIII-D fusion science experiments have emphasized control and deployment of transport barriers for fundamental turbulence studies and optimization of MHD stability for tokamak performance improvement. These experiments have been carried out varying the plasma current profile in modest and strongly shaped neutral beam heated plasmas with-and-without divertor pumping, pellet fueling, and fast wave current drive. Systematic disruption studies employing high speed diagnostic capability together with impurity pellet injection have provided new understanding and tools for real time disruption mitigation and amelioration. Divertor experiments have demonstrated the feasibility of the required low divertor temperatures and are now concentrating on developing physics predictive understanding through detailed diagnostic measurements benchmarked with modeling codes. The future DIII-D program will emphasize demonstration of integrated advanced tokamak performance with an improved high-triangularity divertor with baffling of the main plasma region. Participation of collaborators is being facilitated by remote access and Internet communications.

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- Prefer Oral Session  
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