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Performance of the DIII-D ECH System[1] M. CENGHER, J. LOHR, Y.A. GORELOV, D. PONCE, GA — The six gyrotron ECH system on DIII-D is performing with good reliability while being upgraded. The total power injected into DIII-D has reached 3.4 MW, with pulse length up to 5 s. The power generated by the individual gyrotrons, the power injected into the tokamak, and the total energy injected into DIII-D will be shown for the present year on a shot-to-shot basis. The efficiency of a new transmission line for the most recently installed gyrotron was measured. This gyrotron injects up to 720 kW of power into DIII-D, for 915 kW of generated power. The polarization was checked and the results are shown in agreement with the computed values. The gyrotron "Tinman" was moved to a tank, formerly occupied by the poorly performing "Han" gyrotron, which developed an internal water leak. The re-measured transmission efficiency for this line is -0.96 dB. The use of TIMCON event controller to set ECH timing and aiming is expected to lead to a decrease in the time necessary to install the setup for a new shot, eliminate possible operator errors, and provide better coordination with other aspects of the experiment. The data processing includes calculation of the toroidal and poloidal ECH aiming angles and X-mode content for the steerable mirrors that are moved during the plasma shot.

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