

**FIRST LASING OF THE JEFFERSON LAB UV DEMO LASER**

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*Abstract*

We report on first operation of the UV Demo Free-electron Laser at Jefferson Lab. The laser operated at the long wavelength limit of its operation at 700 nm. The average output power exceeded 165 W with 0.32 mA of beam current. The accelerator operated at 135 MeV with 67 pC bunches at 4.68 MHz. The detuning curve was more than 11 microns, indicating a gain in excess of 100%. We now plan to push the laser to higher power at 700 nm and then to push to shorter wavelengths and explore the utilization of the coherent third harmonic at 10 eV.

**CONTRIBUTION NOT  
RECEIVED**