

More Effective Fusion Experiments Through The Usage of Tiled Display Walls In The DIII-D & NSTX Tokamak Control Rooms

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The National Fusion Collaboratory Project: <http://www.fusiongrid.org/project/>
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Tiled display walls have been installed in the control rooms of the DIII-D and NSTX fusion tokamaks for enhanced large-group collaboration. Using software developed by the National Fusion Collaboratory Project, these display devices present graphics, video, and textual information. Since their installation in early 2004, these devices are now used routinely for scientific research. For collocated scientists, the ability to publish and share a scientific graph on the display wall results in easier and more rapid discussion compared to the old model of individuals walking over and gathering around a small computer monitor. This old model takes more time and can accommodate far fewer people when compared to the tiled display. The ability of the tiled display to accept video combined with audio has allowed remote scientists to interact and even lead the DIII-D experiment. Pictured in the lower left-hand figure is video on the DIII-D tiled wall from the JET tokamak in England when one day was dedicated to size scaling studies of magnetic field fluctuations between the two tokamaks. The success of FusionGrid's tiled display services continues to validate the National Fusion Collaboratory's design of the Collaborative Control Room and represents a model for the next generation burning plasma experiment including ITER. For present day fusion science, tiled displays will allow greater utilization of the existing U.S. experiments and make real-time off-site interaction with these experiments much easier and more productive.



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