

Abstract Submitted
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Optimization of gas jet disruption mitigation ROBERT GRANETZ, DENNIS WHYTE, MATTHEW REINKE, JAMES TERRY, MIT Plasma Science and Fusion Center — Recent experiments on Alcator C-Mod have focused on finding the minimum amount of optimal gas mixture that is required for good disruption mitigation. We desire to reduce the total amount of gas injected into the vessel in order to minimize impact on diagnostics and to shorten the pumpout time between discharges. Previous experiments on C-Mod have shown that a mixture of 15% argon/85% helium optimizes the response time of the gas jet system by increasing the transit speed of the argon, while still realizing good mitigation of halo currents and thermal loads on the divertor surfaces. But those experiments were all done with the plenum pressure set to 70 bar, which results in a undesirably large gas load into the tokamak. It is found that the plenum gas pressure can be reduced substantially, and thus the gas load in the torus, while still maintaining good mitigation characteristics. Results will be presented.

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