

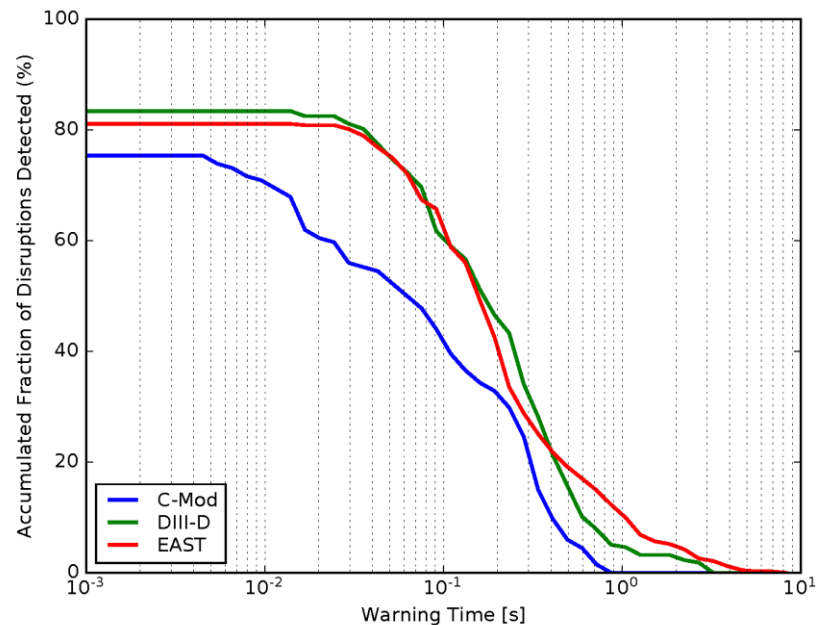
# Summary of Paper EX/P6-20

## MACHINE LEARNING FOR DISRUPTION

### WARNING ON ALCATOR C-MOD, DIII-D, AND EAST TOKAMAKS

R.S. Granetz, C. Rea, K. Montes, *et al*

- We have developed extensive databases of disruption-relevant parameters from discharges on C-Mod, DIII-D, and EAST to apply machine learning methods to create and test disruption prediction algorithms.
- We find that different sets of signals are relevant for each machine.
- Random Forests predictors that have been optimised for each machine perform comparably on a shot-by-shot basis.
- We have installed the DIII-D predictor algorithm into the plasma control system and ran it in real time, with good results.
- We have run the EAST predictor algorithm between shots, and can provide a reliable warning of an impending VDE disruption.



Comparison of disruption predictor performance for Alcator C-Mod, DIII-D, and EAST.