

The ITPA disruption database

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Abstract. A multi-device database of disruption characteristics has been developed under the auspices of the International Tokamak Physics Activity magneto-hydrodynamics topical group. The purpose of this ITPA Disruption Database (IDDB) is to find the commonalities between the disruption and disruption mitigation characteristics in a wide variety of tokamaks in order to elucidate the physics underlying tokamak disruptions and to extrapolate toward much larger devices, such as ITER and future burning plasma devices. In contrast to previous smaller disruption data collation efforts, the IDDB aims to provide significant context for each shot provided, allowing exploration of a wide array of relationships between pre-disruption and disruption parameters. The IDDB presently includes contributions from nine tokamaks, including both conventional aspect ratio and spherical tokamaks. An initial parametric analysis of the available data is presented. This analysis includes current quench rates, halo current fraction and peaking, and the effectiveness of massive impurity injection. The IDDB is publicly available, with instruction for access provided herein.