The magnetic fluctuations associated with rotating MHD modes can be characterized using a set of observables derived from the Singular Value Decomposition algorithm applied to the data collected by an array of Mirnov coils.

Such data provide an input to machine learning analysis such that a clustering separating disruptive and non-disruptive timeslices can be found.

Combined with a standard amplitude Locked Mode trigger, the accumulated warning time for the detection of incoming disruptions is significantly increased (>1s) with respect to the stand-alone LM. Extended warning time opens possibilities of disruption avoidance.

Extension of the method to different plasma scenarios, and potential for scaling to future devices are being studied.