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# A WACS exploiting generator Excitation Boosters for power system transient stability enhancement

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**Abstract— Excitation Boosters (EB) are designed to improve transient stability of synchronous generators equipped with bus fed static excitation systems. They can be controlled using either local or remote signals following a disturbance. This paper explores how critical clearing times (CCT) can be improved by EBs controlled using remote signals. Particularly, Pseudo Center of Inertia (PCOI) and Dominant Interarea Path (DIP) signals derived from Phasor Measurement Units (PMU) within a Wide Area Control System (WACS) are used. Prototype controllers are tested by means of a Real Time (RT) Hardware-in-the-Loop (HIL) experimental setup.**

**Index Terms— Excitation Booster; Synchronous generator transient stability; WACS; PMUs; Real Time systems; HIL**



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