

Abstract: Development of a Hardware based Wind Power Generation System

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Abstract

The operation of wind power generation system (WPGS) can be affected by the utility condition. This paper proposes development of a hardware based WPGS using a real hardware which consists of a motor generator set with motor drive, real time digital simulator (RTDS), and back-to-back converter. A digital signal processor controls the back-to-back converter connected between the back-to-back converter and the RTDS. The proposed PHILS can effectively be applied to demonstrate the operational characteristics of PMSG type WPGS under grid connection.