



EMC ISSUES FOR WIND TURBINES

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Abstract. This paper addresses the study of the immunity to common mode spurious signals of any generic electronic system used in wind turbines. This study uses numerical simulations based on a MTL model applied to shielded cables to analyze the effect of common mode signals in the control system of wind turbines and the impact on the common mode immunity of different design parameters on the front-end. The generic set-up is composed by the transducer and input circuitry of the control located about 10 meters from the transducer. Shielded cables are used to connect the transducer to the input amplifiers. This study allows predicting electromagnetic compatibility (EMC) problems and estimating the effect of interference noise at early stages of the design.

Key words

Wind power, electromagnetic compatibility, EMI, Multi conductor transmission line, electronics integration, renewable energies, functional safety.

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