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Book Group Author(s): IEEE

Title: On the Problem of Balancing the DC Capacitor Voltage Divider in Back-to-Back Multilevel Converters

Source: IECON: 2009 35th Annual Conference of IEEE Industrial Electronics, VOLS 1-6: 648-653 2009

Language: English

Document Type: Proceedings Paper

Conference Title: 35th Annual Conference of the IEEE-Industrial-Electronics-Society (IECON 2009)

Conference Date: NOV 03-05, 2009

Conference Location: Porto, PORTUGAL

Conference Sponsors: IEEE Ind Elect Soc.

Author Keywords: Power Electronics; Multilevel Converters; Multilevel DC Bus Voltages Balancing

Abstract: This paper presents a new generalized solution for DC bus capacitors voltage balancing in back-to-back m level diode-clamped multilevel converters connecting AC networks. The solution is based on the DC bus average power flow and exploits the switching configuration redundancies. The proposed balancing solution is particularized for the back-to-back multilevel structure with m=5 levels. This back-to-back converter is studied working with bidirectional power flow, connecting an induction machine to the power grid.

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Publisher: IEEE

Publisher Address: 345 E 47TH ST, NEW YORK, NY 10017 USA

ISBN: 978-1-4244-4648-3

ISI Document Delivery No.: BQE04