

**Author(s):** Chaves, M (Chaves, Miguel); Margato, E (Margato, Elmano); Silva, JF (Silva, J. Fernando); Pinto, SF (Pinto, Sonia F.)

**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.

**Addresses:** [Chaves, Miguel; Margato, Elmano] ISEL, Ctr Electrotecnia & Elect Ind, P-1950062 Lisbon, Portugal

**Reprint Address:** Chaves, M, ISEL, Ctr Electrotecnia & Elect Ind, R Conselheiro Emidio Navarro 1, P-1950062 Lisbon, Portugal.

**E-mail Address:** soniafp@ist.utl.pt

**Publisher:** IEEE

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

**ISBN:** 978-1-4244-4648-3

**ISI Document Delivery No.:** BQE04