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Title	Flying capacitor resonant pole inverter topology with reduced switch voltage stress
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In	Proceedings of the 15th European Conference on Power Electronics and Applications (EPE 2013, ECCE Europe), 2-6 Sept. - Lille, France : Institute of Electrical and Electronics Engineers Inc., 2013. - p. 1-10
Abstract	Increasing the bus voltage in high power applications has reached a limit, amongst others by susceptibility to single event burnout induced by cosmic radiation. Single event burnout has a strong correlation to the voltage stress over the switching device. This paper proposes a soft switching multilevel converter to raise the power limit and reduce the susceptibility to cosmic radiation by combining a flying capacitor with a resonant pole inverter. A laboratory test circuit is built, and the circuit operation shows satisfactory agreement with the theoretical analysis and simulation results. The experimental results show that this converter module reliably reduces the voltage stress over the devices without interfering with the zero voltage switching capabilities. This is done with relatively low added complexity.
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