

LONG-TERM TEST OF A TRIGGERED MARX-GENERATOR IN REPETITIVE OPERATION

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For the industrial-scale electroporation of sugar beets the use of a set of synchronized, hence triggered, Marx-generators promises an energy-efficient processing. Such generators need to operate during a seasonal campaign of 100 days without interruption¹. In order to obtain some experience in the possible problems of the design, a long-term test is performed. The following issues are considered to be critical: the wear of the spark gaps, the jitter of the switching time (important for the synchronisation), and the durability of the overvoltage-trigger circuit directly switched into the charging current's path². The paper deals with some aspects of the test.

1. C. Schultheiss, M. Sack, H. Bluhm, H.-G. Mayer, M. Kern, and W. Lutz: "Operation of 20 Hz Marx-Generators on a common electrolytic load in an electroporation chamber", 14th International Pulsed Power Conference, June, 2003, pp. 669-672.
2. M. Sack, C. Schultheiss, and H. Bluhm: "Wear-less trigger method for Marx generators in repetitive operation", 14th International Pulsed Power Conference, June, 2003, pp. 1415-1418.