Title:

Spark Gap Erosion in Marx Generators for Electroporation

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Abstract: (Your abstract must use **Normal style** and must fit in this box. Your abstract should be no longer than 300 words. The box will 'expand' over 2 pages as you add text/diagrams into it.)

As a pulse source in industrial-scale electroporation devices Marx generators advantageously can be used, /1/. For a long-term operation of such a device it is crucial to know about the wear of the spark gaps, /2/. Therefore, experiments on the wear have been performed. The experiments were carried out with a single spark gap in nitrogen atmosphere. The spark gap switches an RLC circuit when reaching its ignition voltage. Different ignition voltages were set by pressure variation. Peak current and current shape were modified by adjustment of the load resistance. The pulse length has been selected in the microsecond range. The wear of the spark gap has been determined by means of measuring the difference in weight before and after the pulse application. The poster presents the wear for different pulse shapes and ignition voltages.

/1/ M. Sack, C. Schultheiss, and H. Bluhm, "Triggered Marx generators for the industrial-scale electroporation of sugar beets", IEEE Trans. Ind. Appl., vol. 41, no. 3, pp. 707–714, May/June 2005.

/2/ M. Sack, and H. Bluhm, "New measurement methods for an industrial-scale electroporation facility for sugar beets", IEEE Trans. Ind. Appl., vol. 44, no. 4, pp. 1074–1083, July/August 2008.

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