A magnetic cumulative generator with opening switch

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Experiments with magnetic cumulative generators were carried out, and inductive loads 1 μH used. The generators were designed and investigated with a primary circuit being switched off. An explosive open switch ensured a voltage front pulse in the loads, the pulse leading edge was no more than 4 μs. Intercepted magnetic flux in a primary circuit was 0.08 Wb. The output current pulse was 0.38MA, and the coefficient of flux conservation 0.614. There is a limitation because of maximum high electric field in the generator, thus overall performance of magnetic cumulative generator cascades was taken into account. A numerical simulation of such generators depends on a lot of non-linear parametric data, which can be received from special tests. The experiments under consideration have demonstrated a high performance and effective application of the small-sized devices for impulse magnets supply.