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Oral / Poster	oral		
Title of Paper:	FCG Generator - Results Of Research And Practice Tests		
Abstract:	<p>The work was made within a project of defense research funded by the Czech army. The project solves the effective and humane substitution of the anti-personnel (AP) mines with use of non-lethal technologies.</p> <p>The non-lethal anti traffic mine was the research object in 2001 to 2005. The basic aim was to provide an energetic source for power part of the mine – vircator. The generator with magnetic flux compression (FCG) was selected on the basis of analysis.</p> <p>The inner armature made from annealed copper was used for the production of FCG generator by reason of the good dilatibility and the cracking elimination during explosive expansion. The inner armature is filled with a molded explosive. The explosive wave velocity is 8 to 9 km s⁻¹.</p> <p>The follow-up propagation of the explosive wave causes the gradual shorting of coil winding and, at the same time, the magnetic flux compression too. This process results in rapid increase of the current, passing through the load.</p> <p>The proposed, realized and tested FCG generator model meets theoretical assumptions. It is the representative of category of little generators with the output pulse energy of a few kJ.</p> <p>The results of FCG generator research confirmed, that the proposed technical solution is functional and it can be used as a single source and modulator for power microwave electron tubes (vircator).</p>		

The solved problem represents the technical solution of the less-lethal weapon and it is in line with worldwide aim of use of selected non-lethal technologies too. These technologies comply with the task to temporally affect on the human organism under various conditions. The FCG generator is able to supply a vircator as HPM source.