

## NEW GENERATION OF DISK EMG (SMALL-CLASS DISK EMG)

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The results of experimental development of a new generation of small-class (250 mm diameter) disk explosive magnetic generators (DEMGs) are presented. Compared to the prototype, the following significant changes have been made in the design of the DEMG:

- transition from profiled disk elements to flat ones allowed more than doubling the fraction of explosive energy transferred to the magnetic field [1];
- realization of the scheme of current formation of the DEMG on the basis of the foil electrically-exploded opening switch (FEOS) in the form of a “serpentine” [2], allows to increase the voltage without a significant increase in the inductance of energy supply to the load [1];
- application of FEOS in the form of a “serpentine”, together with the discharger, allows to reduce the time of current pulse delivery to the load up to 100 ns [3].

The results of the first experiments on investigation of shock and isentropic compression of substances are given, the ranges of achievable pressures, as well as the prospects of application of small-class DEMG in the experiments on generation of X-ray radiation by Z-pinch, are estimated.

### References

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