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## **A Compact High Voltage Pulse Generator for Three Plasma Synthetic Jet Actuators Synchronous Discharge**

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Plasma synthetic jet (PSJ) is considered as one of the effective plasma actuators for flow control, which has drawn much attention. In this paper, a compact microsecond-pulse generator with high-voltage and three outputs is developed for achieving synchronous discharge for three PSJ actuators. The working principle of the generator is introduced and the waveforms of each part of the circuit are determined. Results show that the value of maximum output voltage of the microsecond-pulse generator is 10 kV with a rise time of about 2  $\mu$ s and a pulse repetition rate of 100 Hz. Moreover, the voltage waveforms of three outputs are almost the same, indicating that the designed generator is successfully used for achieving synchronous discharge for three PSJ actuators. Furthermore, the discharge waveforms of voltage and current are tested. The effect of gap spacing on the characteristics of plasma synthetic jet is analyzed. The experiment results show that breakdown voltage increases with the increase of gap spacing and the generator can guarantee synchronous discharge for three PSJ actuators at different gaps.

**Primary author:** Mr WANG, Lei (Institute of Electrical Engineering, Chinese Academy of Sciences)

**Co-authors:** Dr ZHANG, Cheng (Institute of Electrical Engineering, Chinese Academy of Sciences); Mrs REN, Chengyan (Institute of Electrical Engineering, Chinese Academy of Sciences); Mr HAN, Lei (Institute of Electrical Engineering, Chinese Academy of Sciences); Prof. SHAO, Tao (Institute of Electrical Engineering, Chinese Academy of Sciences)

**Presenter:** Mrs REN, Chengyan (Institute of Electrical Engineering, Chinese Academy of Sciences)

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