

## On the estimation of the parameters of spark discharges and the ignition ability of a capacitive ignition system with unipolar discharge pulses

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*Received 20.02.2023; revised 12.03.2023; accepted 22.03.2023*

*A toolkit has been developed for a comparative theoretical assessment of the main indicator of the efficiency of promising capacitive ignition systems with unipolar discharge pulses – igniting ability according to given fixed parameters of designed and evaluated ignition systems based on the igniting ability criteria in relation to stationary and moving air-fuel mixtures in the combustion chambers of gas turbine engines. Calculation expressions are obtained for the parameters of unipolar spark discharges in semiconductor candles – energy, duration and discharge current, which can be used to analyze discharge processes at the design stages and study the efficiency of ignition systems.*

*Keywords:* capacitive ignition system, flammability criteria, semiconductor spark plug, spark discharge parameters.

DOI: 10.51368/1996-0948-2023-3-25-32

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DOI: 10.2174/1874129001509010193.