SI Engine with repetitive NS spark plug

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The paper presents the results of tests of distributed spark ignition system powered by repetitive pulse nanosecond discharge. Dynamic pressure measurements show the increased pressure and frequency stability for nanosecond excitation in comparison with the standard spark plug. Excitation by single nanosecond high-voltage pulse and short train of pulses was examined. In all regimes the nanosecond pulsed excitation demonstrate a better performance.