

## **A comparative study of calculated and experimental indicated diagrams of a S.I. Engine**

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### **Abstract**

The functioning of the engine in a closed loop with lambda sensor and catalyzer makes the excess air factor to be maintained as close as possible to the value  $\lambda=1$ . Based on an own model, the authors realized an analytical calculation of the indicated diagram. The indicated diagram was also raised on an experimental stand in p-V coordinates, and the real indicated diagram in p-a coordinates. The equations for the thermal processes that take place in the engine have been determined and, after that, these were introduced in a computer. Using these equations, the state parameters in the characteristic points of the engine cycle were calculated.

*Keywords: engines, lambda sensors, engine thermal processes*

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