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## **Computational Models for Engine Brake Simulations**

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Group of computational models for engine brake simulations contains a thermodynamic and a mechanical model. The thermodynamic model of an IC Engine in an environment of GT-SUITE (Gamma Technologies). This simulation model is usable for prediction of the combustion, cylinder charge exchange and mechanical efficiency. The model has a turbocharger with variable-geometry turbine (VGT) and external gas recirculation into the cylinder (EGR) and prepared parameterization for variable timing mechanism (VVT). The model is a basic environment for engine brake simulation and optimizations. The Mechanical model of a valve train which will simulates kinematics and dynamics of the OHC valve train. Model respects the geometry and dynamic behavior of the mechanism, it enables prediction of inertia forces on elements of the mechanism. The mechanical model provides data of load conditions for FEM structural analysis of the mechanism's parts.

### **Vlastník**

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