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Modelling of Two-Phase Direct Cylinder Injection

As the world enters a new millennium, the spark ignition engine enters a new age of gasoline fuel injection technology ? direct injection. Orbital Engine Company is at the forefront of this technology with a unique, air-assist direct injection (ADI) system, which utilises a low-pressure air pulse as fuel atomiser and carrier. Modelling of Orbital's ADI system was carried out using a Eulerian-Lagrangian formulation for two-phase flow with a commercially available CFD package called Star-CD. The research has been a large step forward towards an improved predictive injection model for use in engine development.

Author Name:

Philip R. De Vos

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