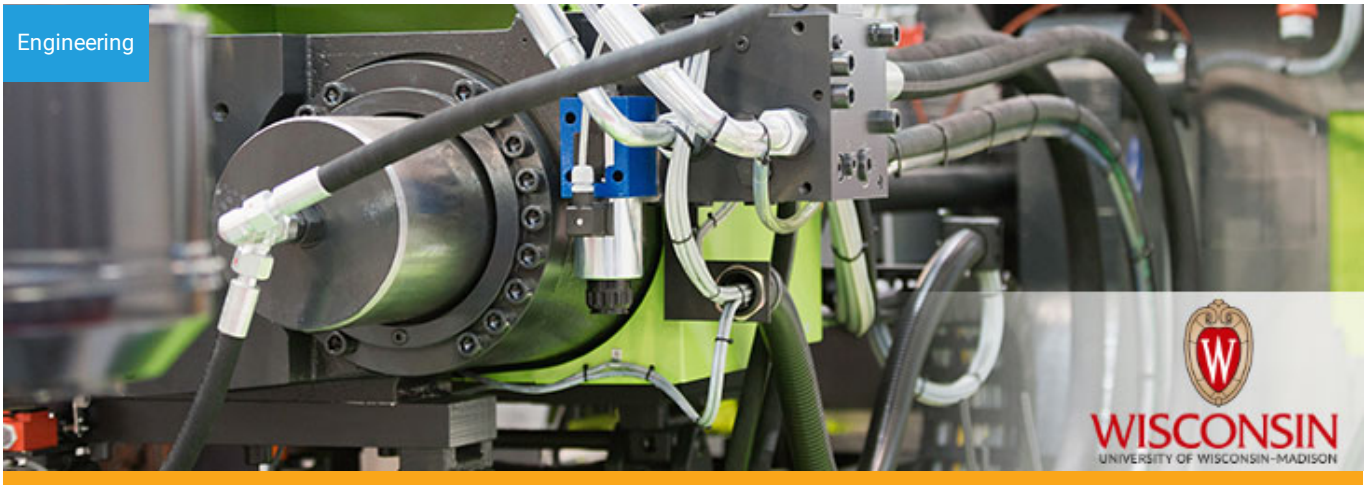
Engineering



Engine Combustion Control At High Loads Via Fuel Reactivity Stratification

View U.S. Patent No. 9,915,235 in PDF format.

WARF: P150333US01

Inventors: Rolf Reitz, Martin Wissink

The Invention

Low-reactivity fuel such as gasoline is provided to a diesel engine cylinder sufficiently early in the injection stroke that it will be premixed. High reactivity fuel such as diesel fuel is then injected during the compression stroke, preferably around 40-60° before Top Dead Center (TDC), to provide a stratified distribution of fuel reactivity within the cylinder, one which provides ignition (the start of main heat release) at or near TDC, preferably at 0-10° prior to TDC. At that time, the low-reactivity fuel is again injected and burns in a diffusion-controlled manner owing to its lower reactivity, thereby providing greater power output (and thus increased load) with little or no increase in peak heat release rate (PHRR) and combustion noise.

Tech Fields

- Engineering : Engine technologies

For current licensing status, please contact Michael Carey at mcarey@warf.org or 608-960-9867