Our simulated vehicles include diesel-powered conventional and hybrid vehicles equipped with DOC/LNT/CDPF

- PCCI improves fuel economy and NOx emissions in our simulated conventional vehicle by decreasing LNT and DPF regeneration frequency
- HC and CO tailpipe emissions can be also reduced by PCCI when less frequent LNT regeneration is required
- PCCI provides less benefit in our simulated HEV because the PCCI mode is used only in a much smaller part of the drive cycle
- HEV starts engine only at high vehicle load conditions

PCCI is distinguished from conventional combustion by avoiding high NOx and PM zones

PCCI operating time in the conventional vehicle covers 79% time of a cold-start UDDS cycle

PCCI operating time in the HEV covers less than 10% time of a cold-start UDDS cycle

Simulation Tool

Engine map includes:
- Fuel consumption
- E/O temperature
- E/O NOx, HC, CO, PM

DOC/LNT/DPF: PM/NOx/HC/CO reduction

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