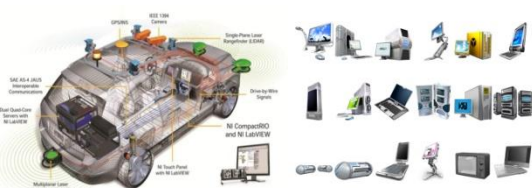


# Continuous-Time Feed-Forward Delta-Sigma Controller for DC-DC Converter

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$\Delta\Sigma$  modulator can be applied to next-gen electronics products



We use the  $\Delta\Sigma$  modulator to DC-DC converter

Expected advantages:

- Fast transient response
- High efficiency at low load
- Spread spectrum of switching noise

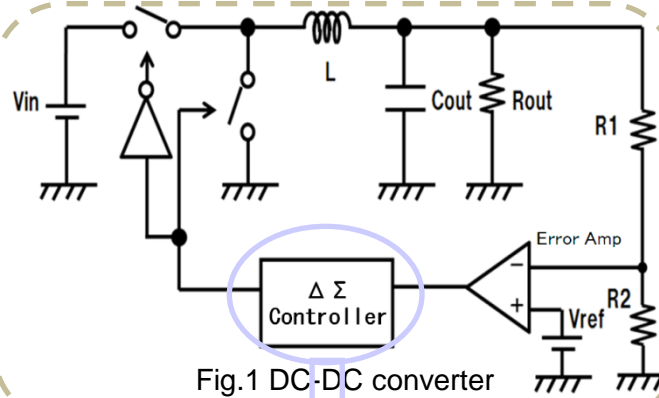


Fig.1 DC-DC converter

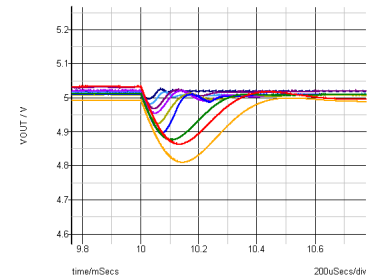


Fig.3 Transient response simulation results

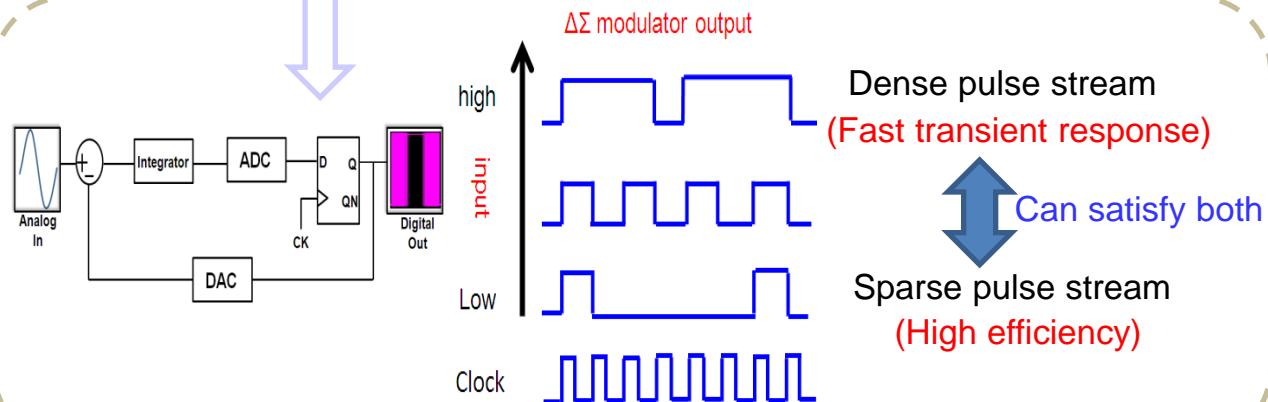


Fig.2  $\Delta\Sigma$  modulator controller