

Efficiency enhanced DC-DC converter using dynamic inductor control

Mohareb, Omar Abu, author

Deskripsi Lengkap: <https://lib.ui.ac.id/detail?id=20508015&lokasi=lokal>

Abstrak

Omar Abu Mohareb proposes a novel dynamic inductor control (DIC) that can be generally applied to various DC-DC converter types. The aim is to improve the converter efficiency throughout controlling the inductance value at all operating points without consequential complexity or increase in the inductor cost and size. The dynamic inductor control implies the maximum energy transfer (MET) concept to improve the DC-DC converter efficiency and preserve a fast system dynamics against load changes at the same time.

Contents

Effects of Varying Inductance Value on Converter Efficiency and Performance

Boost Battery Charger Modeling

Development of Dynamic Inductor Control (DIC) and Maximum Energy Transfer (MET) Concepts

Dynamic Inductor Control Concept Simulation and Implementation