

Choosing the right EV Parts for the vehicle and conditions

E-Transport Simulator

Input Parameters

Motor	Inverter	Battery	Gear	Tire	Vehicle
Parameter Value Pole 8 Resistance 0.0127 Voltage 280 Current 419 Coefficient of Iron Loss 0.2400 Coefficient of Stator Loss 0.0000 Coefficient of Field Loss 4 Coefficient of Rotor Loss 4 Switching Frequency 6500 DC link voltage 380 DC link Capacity 480	Parameter Value IGBT mat 0.0000 MOSFET mat 0.1000 Diode mat 0.1000 Switching Loss 0.0000	Parameter Value Battery capacity (Wh) 80 Regeneration ratio (Vs/Vt) 1 Regeneration limit (V) 10	Parameter Value Gear ratio 10.0000 Shaft diameter (mm) 0.0000	Parameter Value Tire Outer diameter (mm) 27 Weight of a tire (kg) 10	Parameter Value Car weight (kg) 1500 Luggage weight (kg) 140 Passenger weight (kg) 120 Passenger number 4 Tire number 4
Selected item Motor mat	Selected item Invt mat	Selected item Battery mat	Selected item Gear mat	Selected item Tire mat	Selected item Vehicle mat

Next

モーター選択
適合するE-Axleは？
Motor Selection
Which E-Axle is suitable?

電費 (WLTC走行)
1回の充電でどこまで走れる？
Electricity Consumption (WLTC driving)
How far driving on a single charge?

回転数-トルク特性
最大トルクは、最大回転数は？
RPM-Torque Characteristics
What is the maximum torque and maximum RPM?

WLTC走行での出力
慣性・重力・速度・空気抵抗
Output during WLTC Driving
Inertia/Gravity/Speed/Air resistance

動作条件
車速と出力パワーは？
Operating Conditions
What is the vehicle speed and output power?

モーター効率
自動運転での効率的な運転は？
Motor Efficiency
How to drive efficiently in autonomous driving?

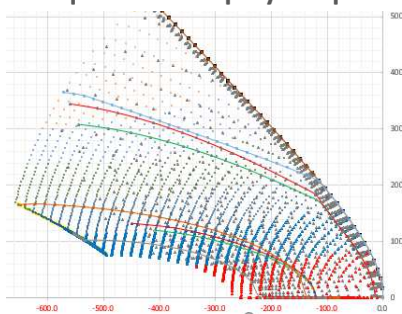
ロスと発熱
銅損・鉄損などのロスの見積
Losses and Heat Generation
Estimation of Copper loss, Iron loss, etc.

効率特性
WLTC走行における効率
Efficiency Characteristics
Efficiency during WLTC driving

本シミュレータは、EV/HEV の車載用駆動モータ 及び E-Axle の各特性をシミュレートするものです
車体の条件や走行環境に適合するモーターを選択したり、モーターの試験時間の短縮に寄与します
This software simulates the characteristics of EV/HEV in-vehicle drive motors and E-Axles. It helps you select a motor that matches the vehicle conditions and driving environment and helps shorten motor testing time.

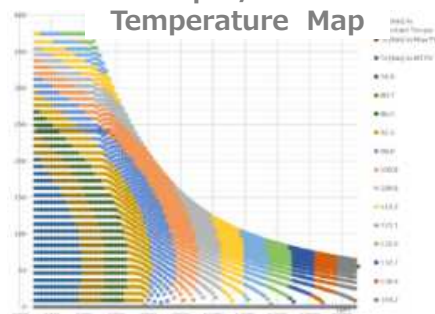
Consistency of theory with reality

Id Iq Control Map by Torque



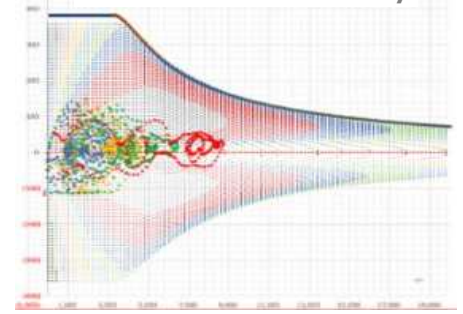
Temperature Map

Rpm/T & Temperature Map



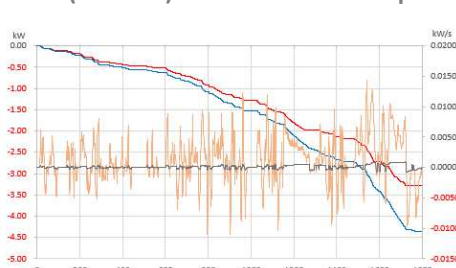
WLTC : Motor Efficiency

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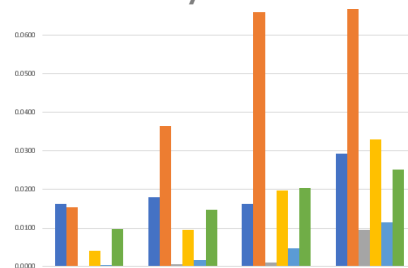
Cruising pattern and BTT consumption

WLTC(1800sec): BTT Power Consumption



Breakdown of losses (WLTC)

P-LOSS by WLTC zone



P-Loss Analyzer

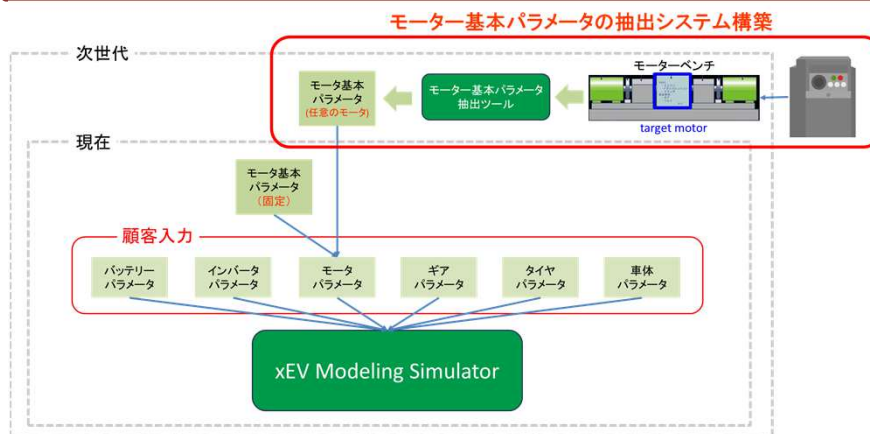
P-Loss Analyzer



製品名 : E-Transport Simulator
技術ロードマップ

機能の拡張
Expanded Functions

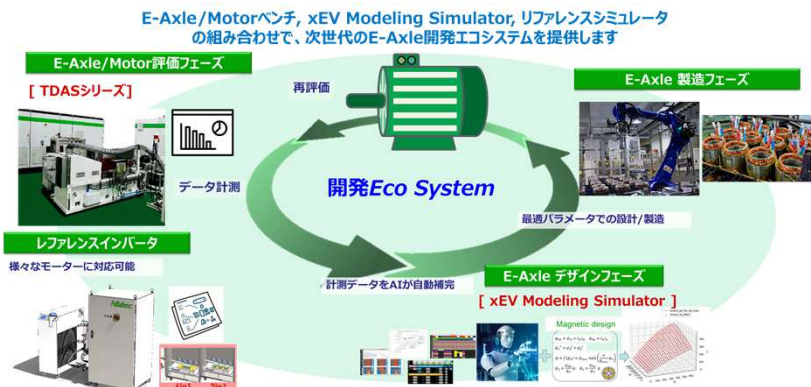
モーター基本パラメータの自動抽出システムとの連携



次世代に向けた開発のターゲット/活用範囲の拡大



開発環境の連携/モーターベンチ、リファレンスインバータ、EVシミュレータを連携



2025

2026

2027

2028