

选择适配车身和车辆条件的EV部件

Choosing the right EV Parts for the vehicle and conditions

xEV建模模拟器

xEV Modeling Simulator (E-Transport Simulator)

输入参数 Input Parameters

Motor	Inverter	Battery	Gear	Tire	Vehicle
Motor.mat Inverter.mat Battery.mat Gear.mat Tire.mat Vehicle.mat	Inverter.mat Gear.mat Tire.mat Vehicle.mat	Battery.mat Gear.mat Tire.mat Vehicle.mat	Gear.mat Tire.mat Vehicle.mat	Tire.mat Vehicle.mat	Vehicle.mat
Parameter Value Type 8 Resistance(Ω) 0.0127 Voltage(V) 350 Current(A) 478 Coefficient of Iron Loss 0.0001 Coefficient of Friction Loss 4 Coefficient of Windage Loss 4 Estimating frequency(Hz) 6000 DC-link voltage(V) 350 DC-link Current(A) 450	Parameter Value Switching frequency(kHz) 8 DC-link voltage(V) 350 DC-link Current(A) 450	Parameter Value Battery capacity(kWh) 80 Discharge rate (1/cut) 1 Regeneration rate (1/cut) 1 Regeneration limit (1/cut) 15	Parameter Value Displacement(cc) 10000 Displacement ratio (1/cut) 1 Displacement limit (1/cut) 15	Parameter Value Displacement(cc) 10000 Displacement ratio (1/cut) 1 Displacement limit (1/cut) 15	Parameter Value Displacement(cc) 10000 Displacement ratio (1/cut) 1 Displacement limit (1/cut) 15

电机选择

哪一款E-Axle最合适?
Motor Selection
Which E-Axle is suitable?

耗电量(WLTC工况下行驶里程)

1次充电可行驶多少里程?
Electricity Consumption (WLTC driving)
How far driving on a single charge?

转速-扭矩特性

最大扭矩? 最高转速?
RPM-Torque Characteristics
What is the maximum torque and RPM?

WLTC工况下输出

惯性/重力/速度/空气阻力
Output during WLTC Driving
Inertia/ Gravity/ Speed/ Air resistance

行驶条件

车速与输出功率?
Operating Conditions
What is the vehicle speed and output power?

电机效率

实现自动驾驶的高效驾驶方法?
Motor Efficiency
How to drive efficiently in autonomous driving?

损耗及发热

铜损、铁损等损耗预估
Losses and Heat Generation
Estimation of Copper loss, Iron loss, etc.

效率特性

WLTC工况下行驶效率
Efficiency Characteristics
Efficiency during WLTC driving

本模拟器可模拟EV/HEV车载驱动电机以及E-Axle的各类特性。

可以更加方便的选择符合车辆条件及行驶环境的电机，并且有助于减少电机测试所需要的时间。

This software simulates the characteristics of EV/HEV in-vehicle drive motors and E-Axles. It helps select a motor that matches the vehicle conditions and driving environment and helps shorten motor testing time.

实际与理论的相符性

Consistency of theory with reality

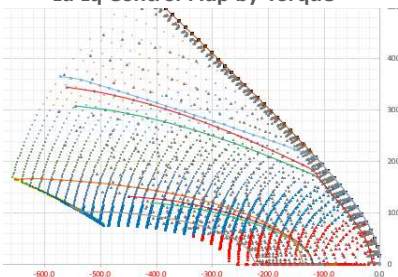
温度特性图

Temperature Map

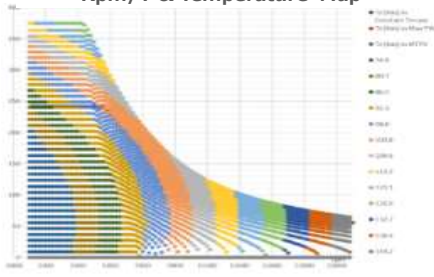
WLTC : 电机效率

WLTC : Motor Efficiency

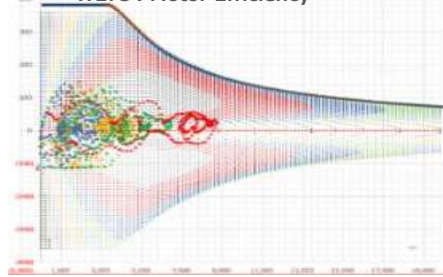
Id Iq Control Map by Torque



Rpm/T & Temperature Map



WLTC : Motor Efficiency



巡航模式与BTT消耗量

Cruising pattern and BTT consumption

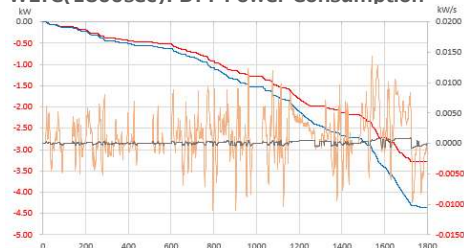
损耗详细 (WLTC)

Breakdown of losses (WLTC)

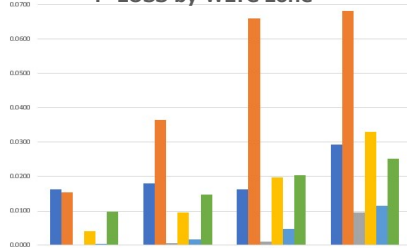
P-损耗解析器

P-Loss Analyzer

WLTC(1800sec): BTT Power Consumption



P-LOSS by WLTC zone



P-Loss Analyzer

