

2014 Mazda 2.0L SKYACTIV-G LEV III Fuel - Test Data Plots

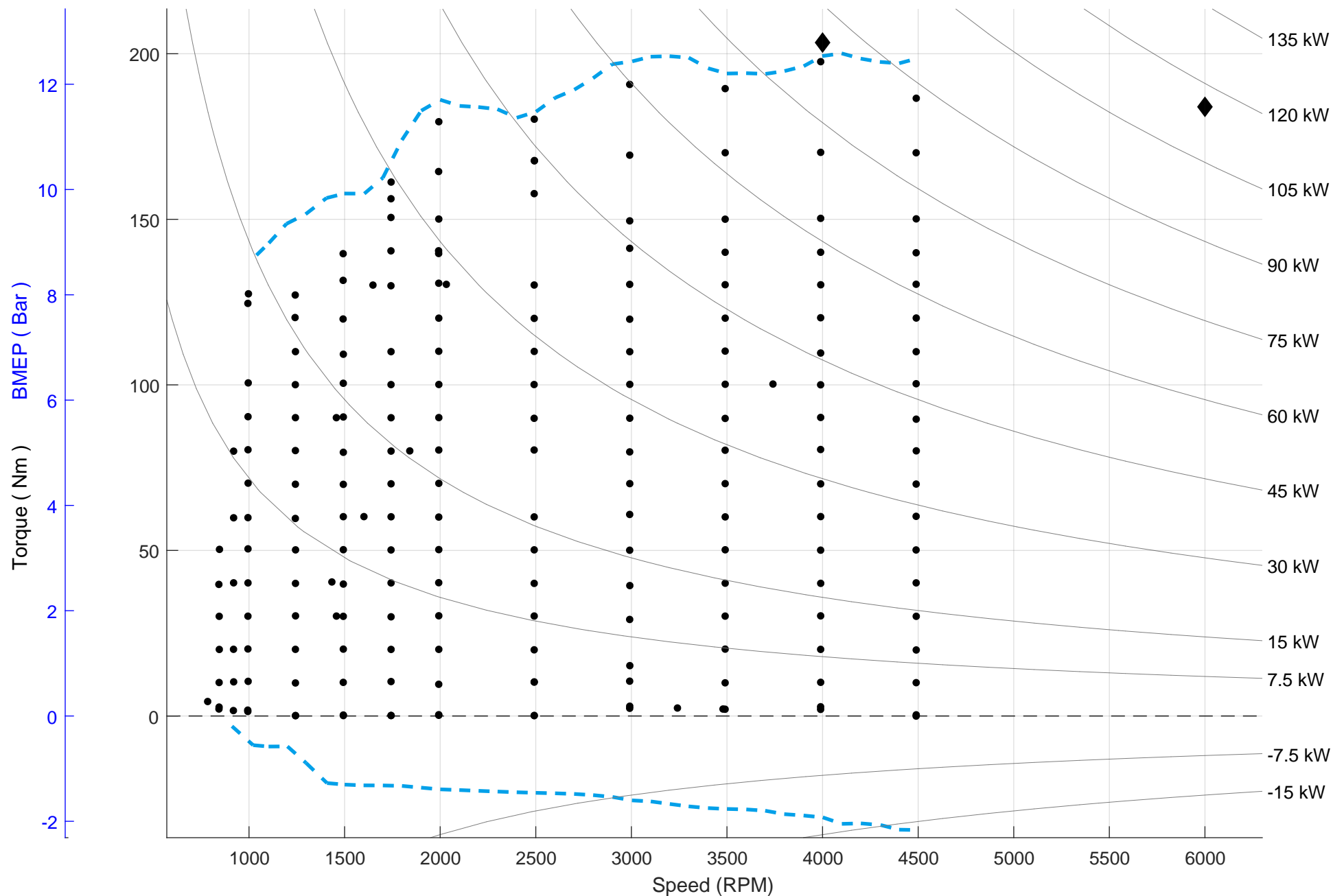
SUGGESTED CITATION: *2014 Mazda 2.0L SKYACTIV-G Engine LEV III Fuel - Test Data Package*. Version 2018-02. Ann Arbor, MI: US EPA, National Vehicle and Fuel Emissions Laboratory, National Center for Advanced Technology, 2018.

- ◆ Black diamonds indicate rated torque & power points advertised by the manufacturer
- Black dots indicate speed/load points at which steady state data was acquired
- — Light Blue dashed line indicates speed/load points selected to represent maximum or minimum engine torque
- ✗ Red Xs indicate speed/load points where data was not collected or did not meet quality standards

Note: In these contour plots, individual data points may be ignored or removed, using our best engineering judgment, to correct irregularities in the visual presentation of the contour lines; additional details are contained in the test report.

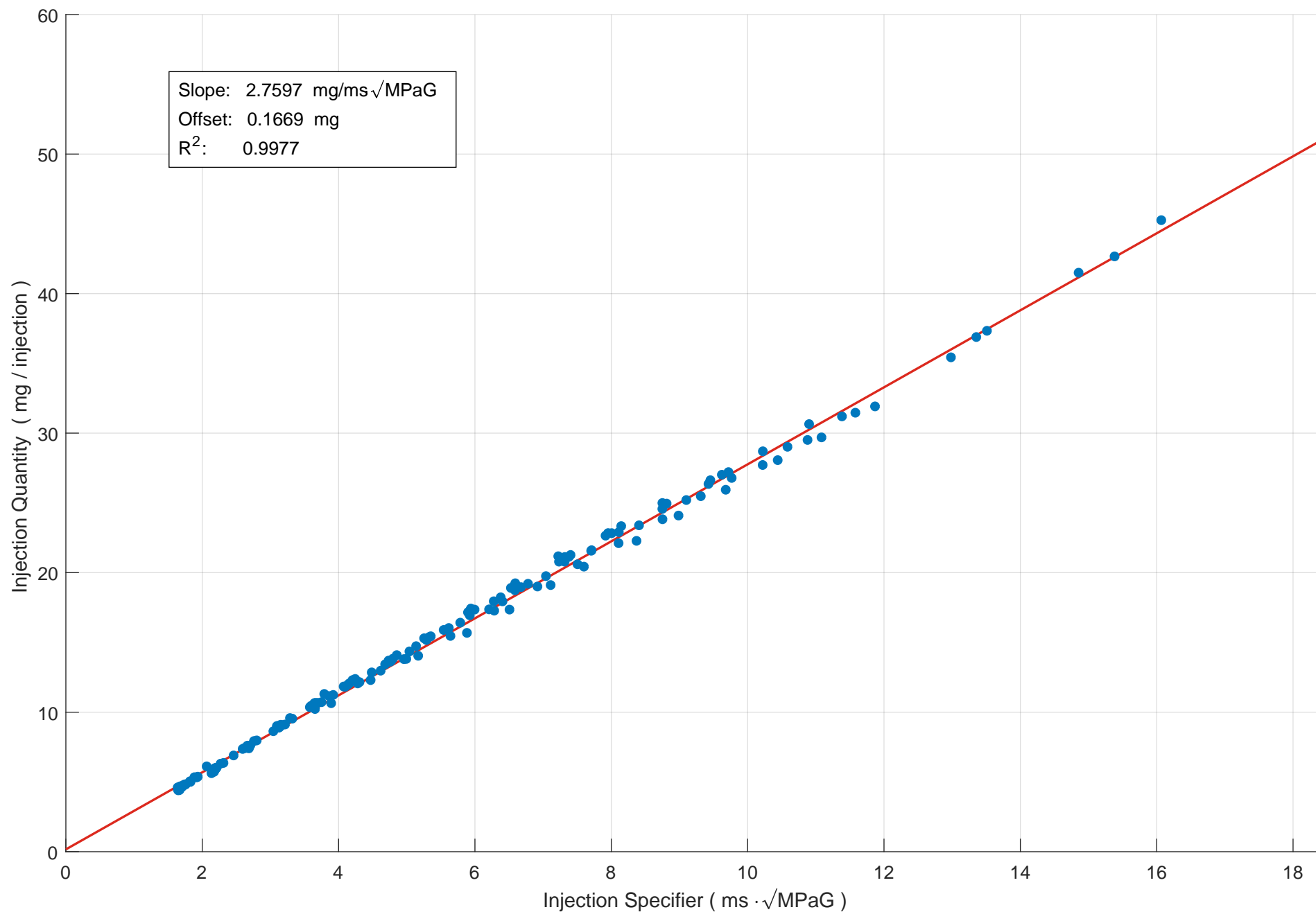
2014 Mazda 2.0L SKYACTIV-G Engine LEV III Fuel - Test Data Plots

Test Data Points



2014 Mazda 2.0L SKYACTIV-G LEV III Fuel - Test Data Plots

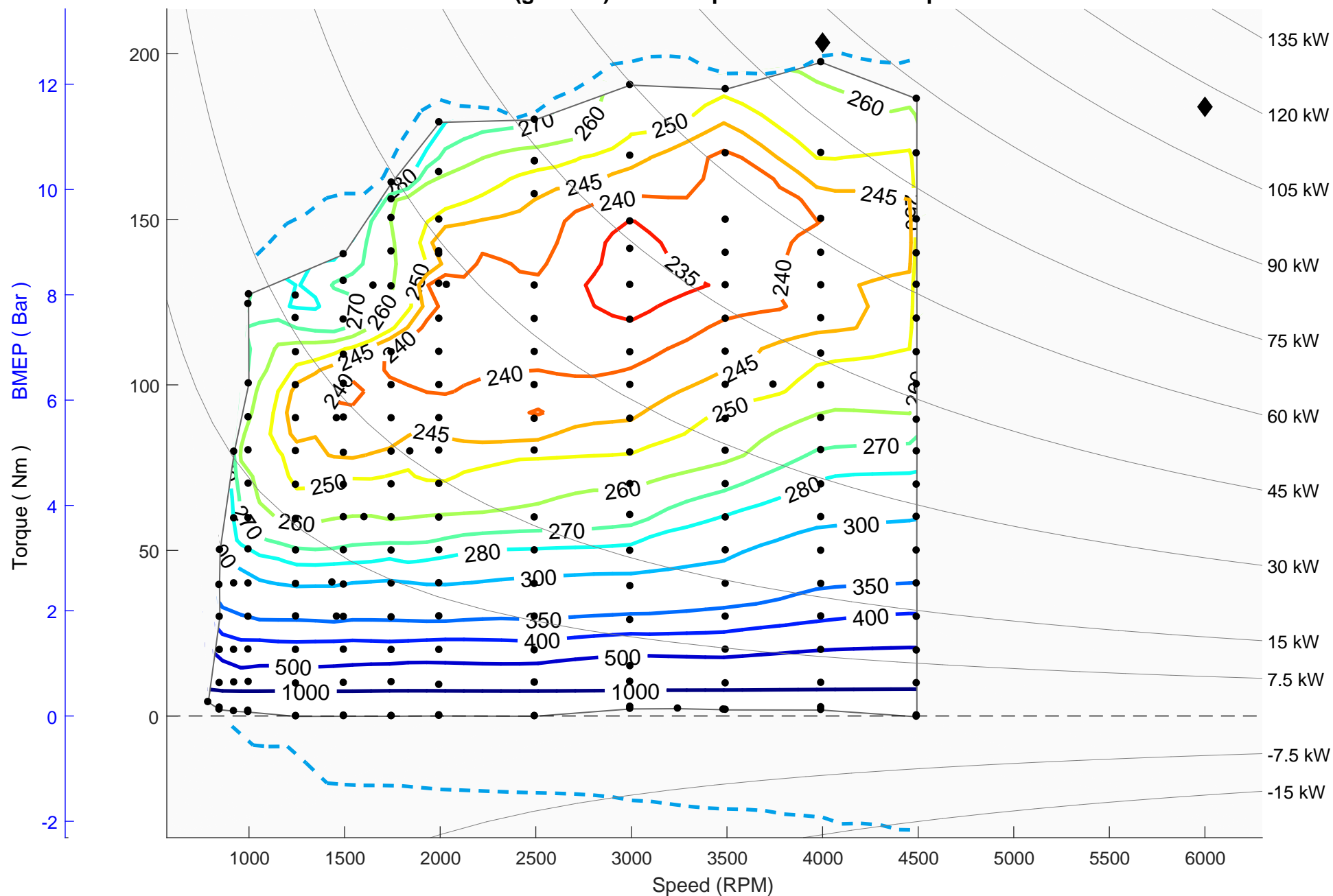
Injector Calibration



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Steady State

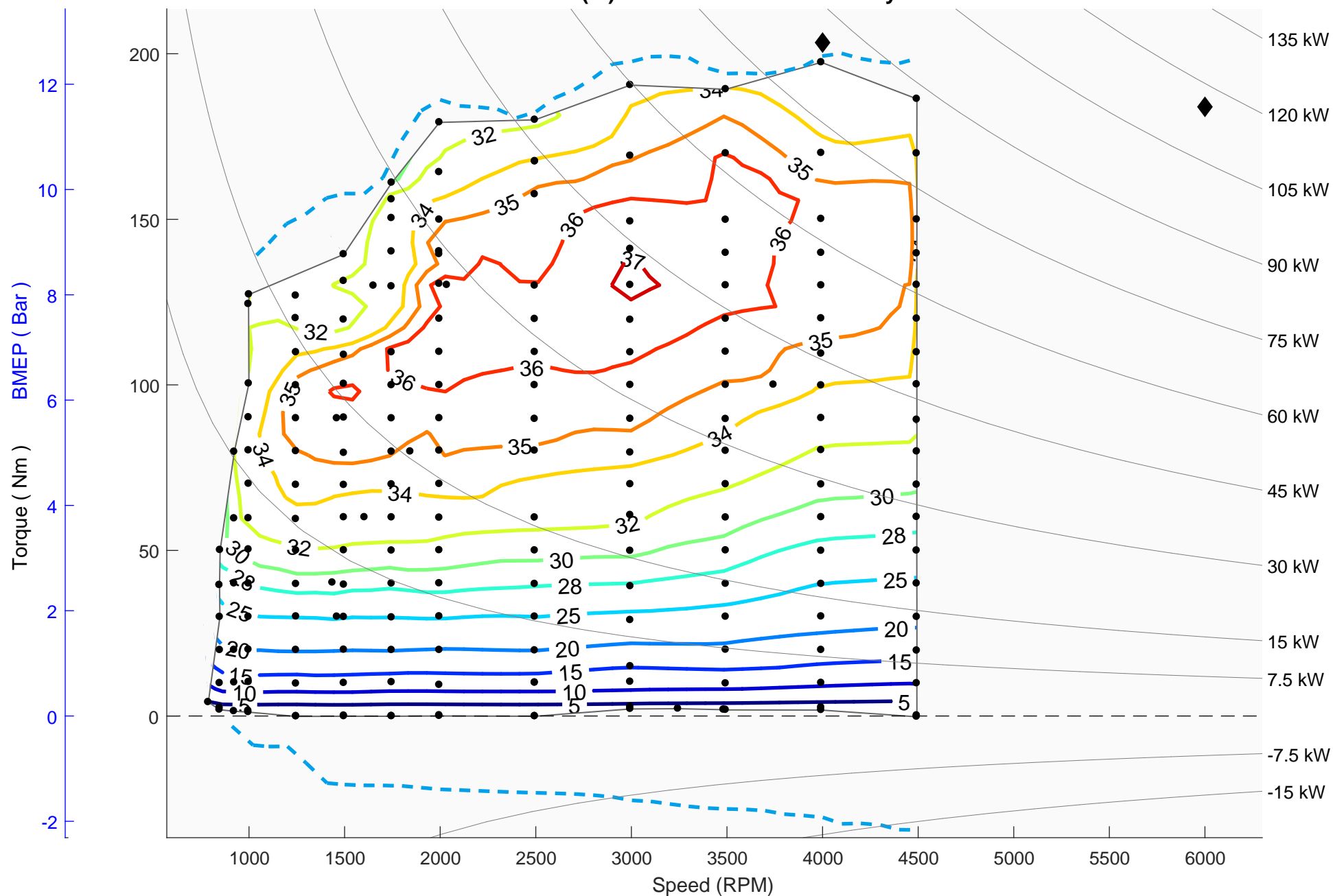
BSFC (g/kW-hr) - Brake Specific Fuel Consumption



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Steady State

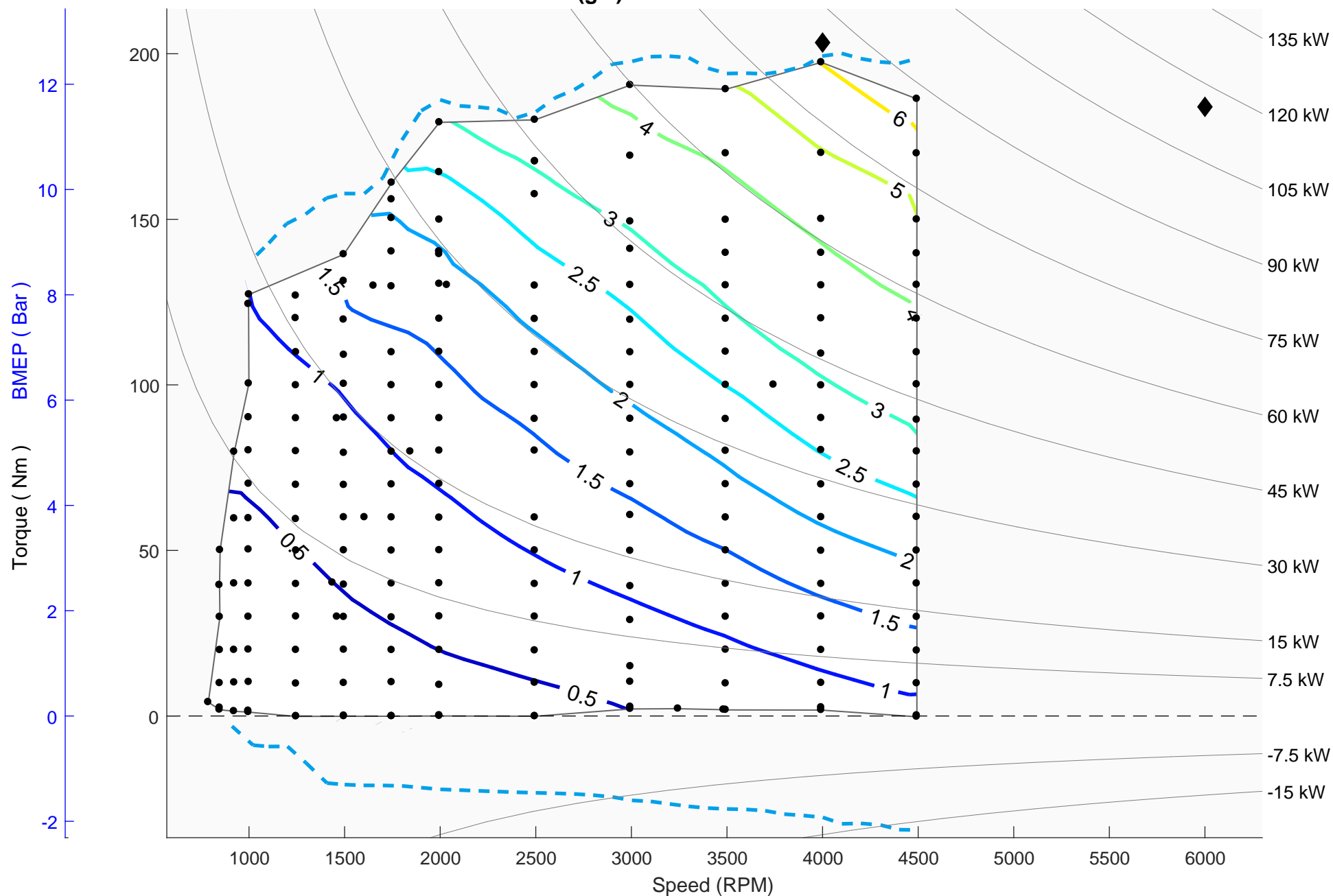
BTE (%) - Brake Thermal Efficiency



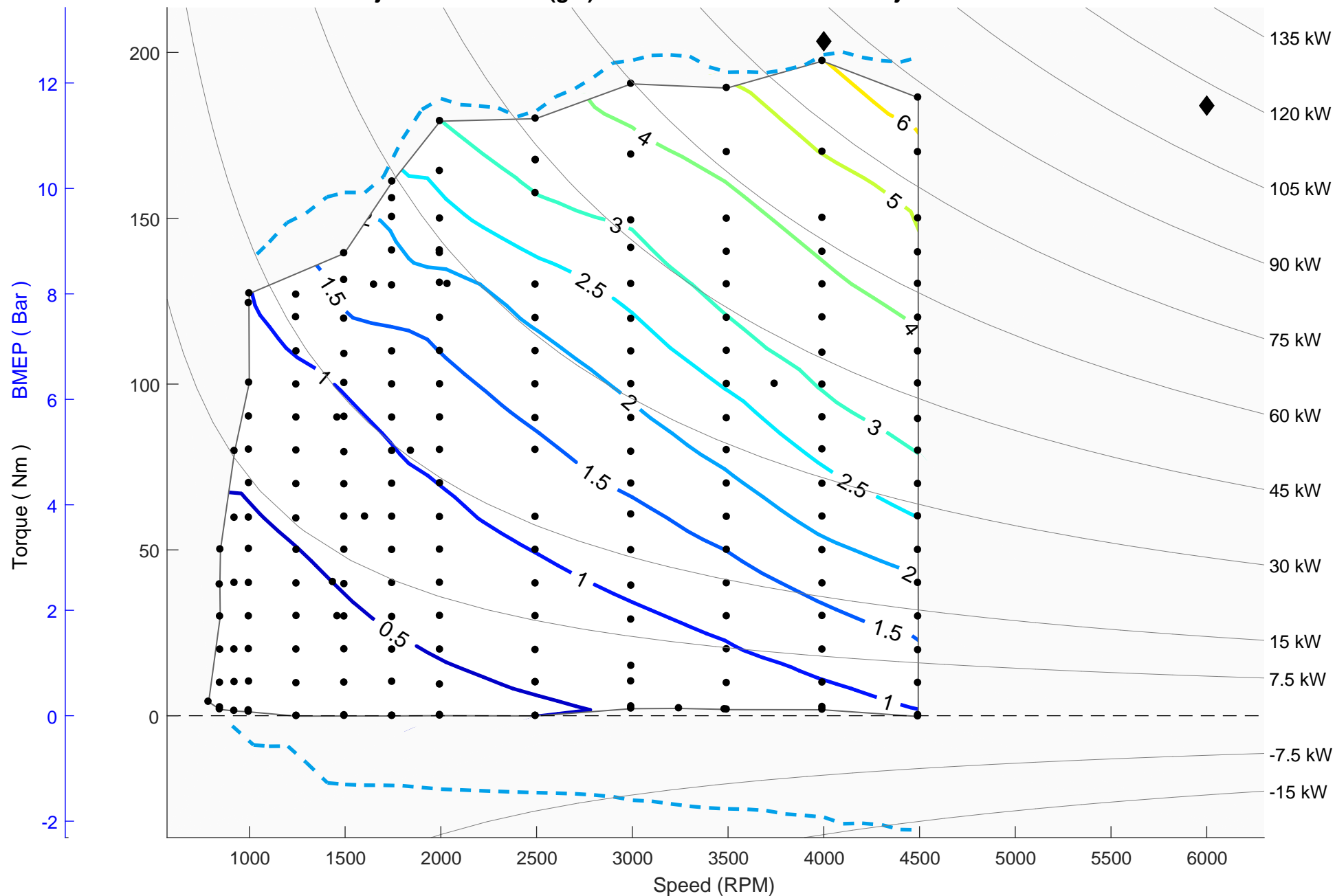
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Steady State

Fuel Meter Flow (g/s) - Fuel Flow Measured with Flow Meter



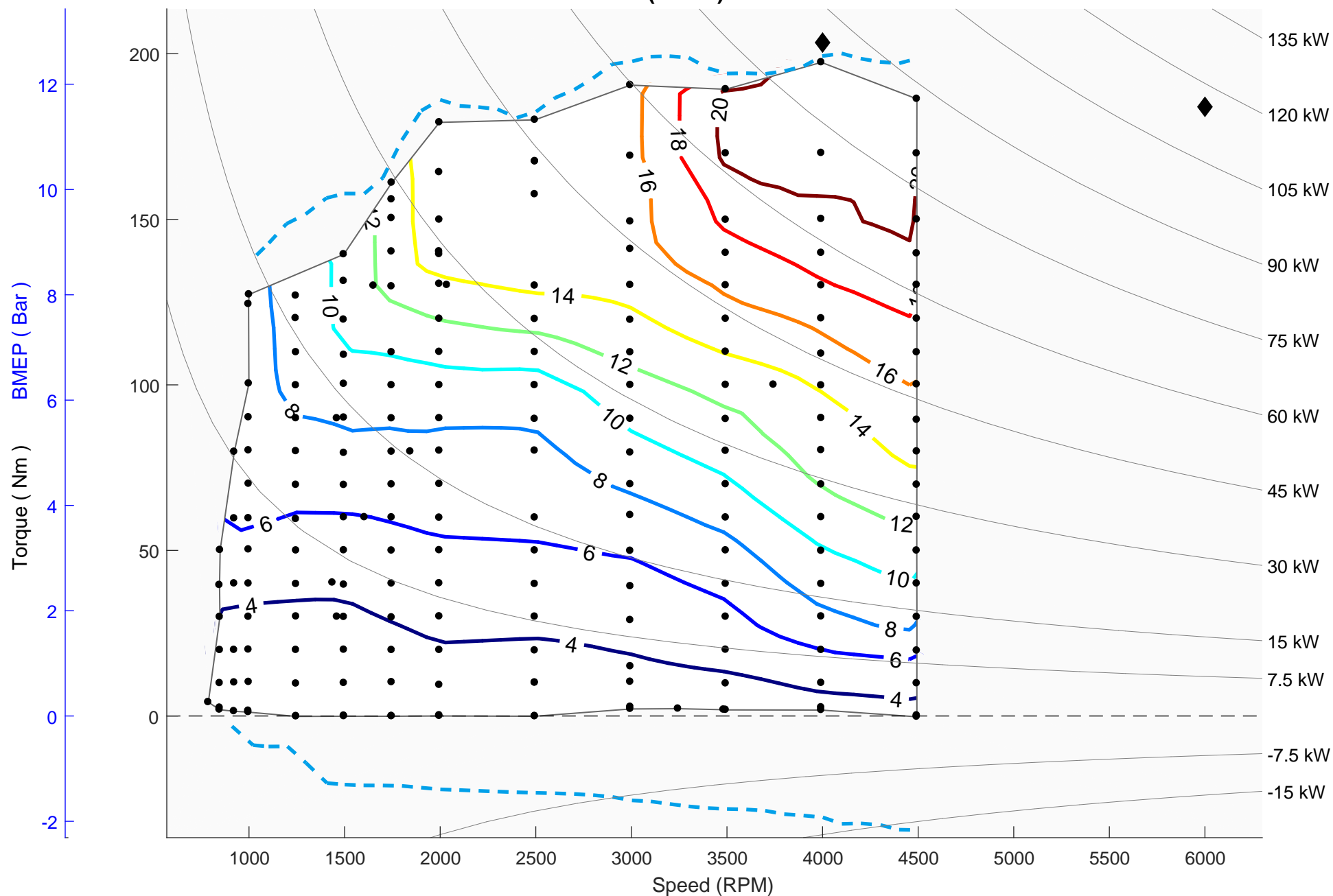
2014 Mazda 2.0L SKYACTIV-G Engine LEV III Fuel - Test Data Plots
Steady State
Injector Fuel Flow (g/s) - Fuel Flow Estimate from Injector Calibration



2014 Mazda 2.0L SKYACTIV-G Engine LEV III Fuel - Test Data Plots

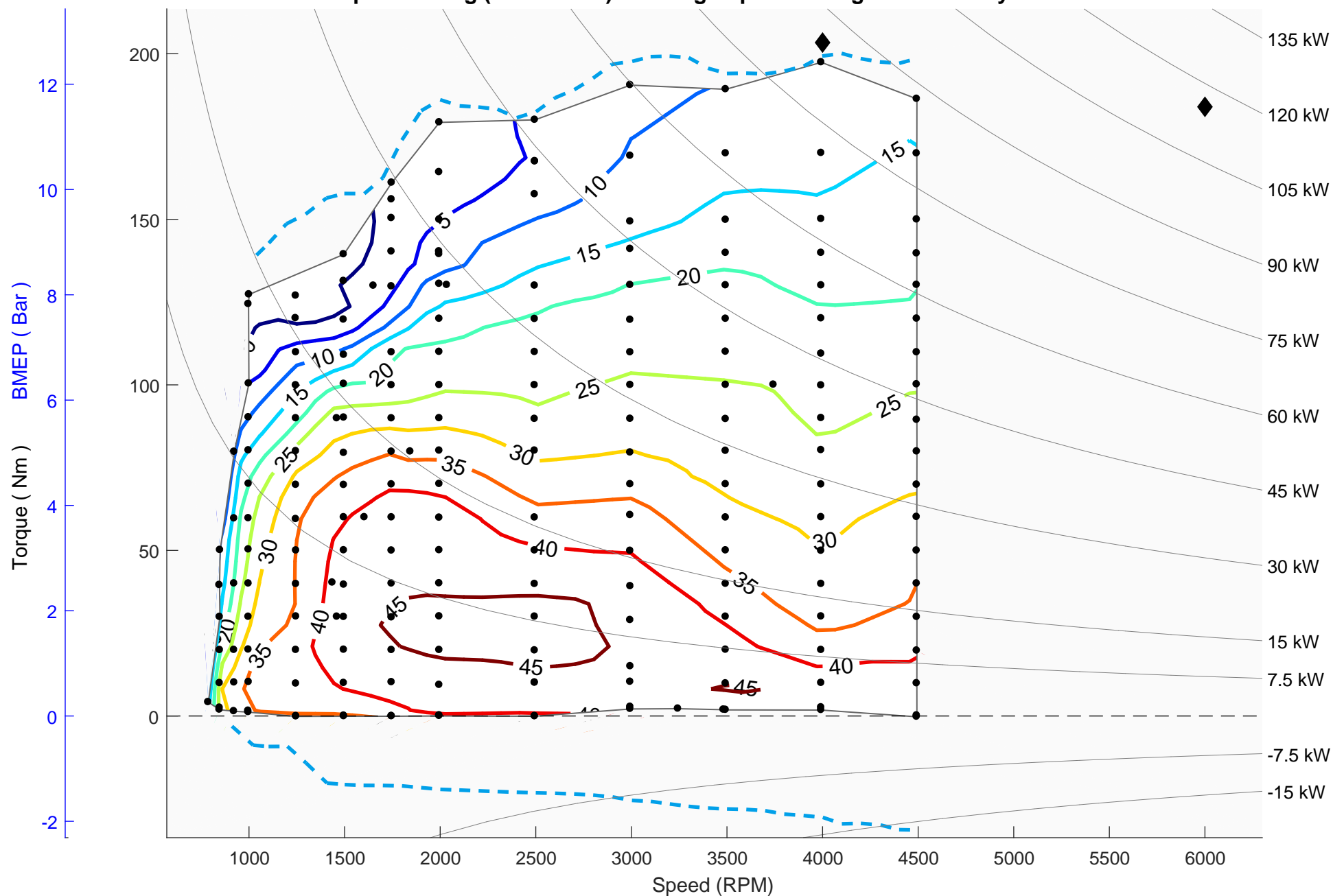
Steady State

Fuel Rail Press (MPaG) - Fuel Rail Pressure*



* Reference Only

2014 Mazda 2.0L SKYACTIV-G Engine LEV III Fuel - Test Data Plots
Steady State
Spark Timing (CAD BTDC) - Average Spark Timing Across all Cylinders*

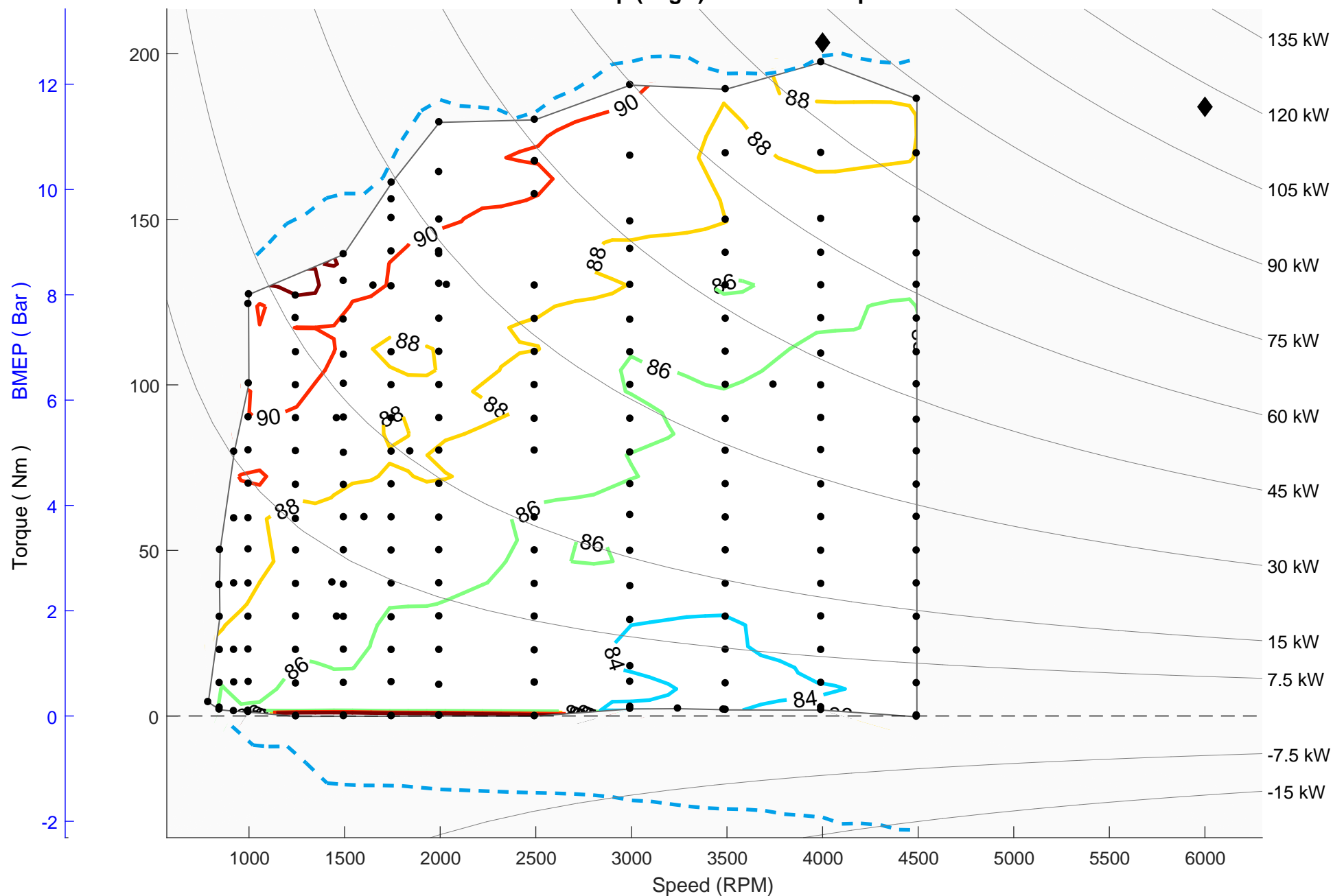


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Steady State

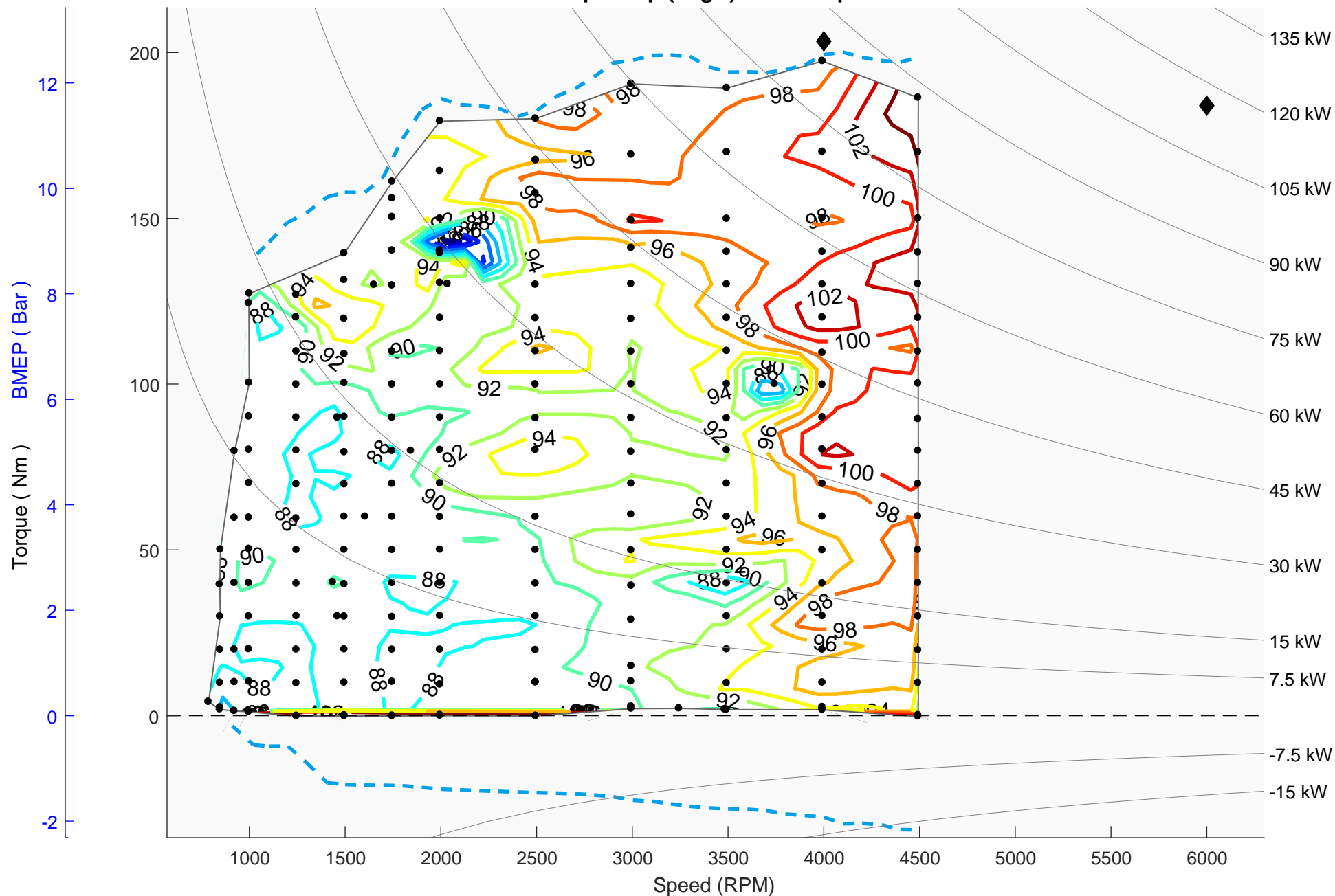
Coolant Temp (degC) - Coolant Temperature



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Steady State

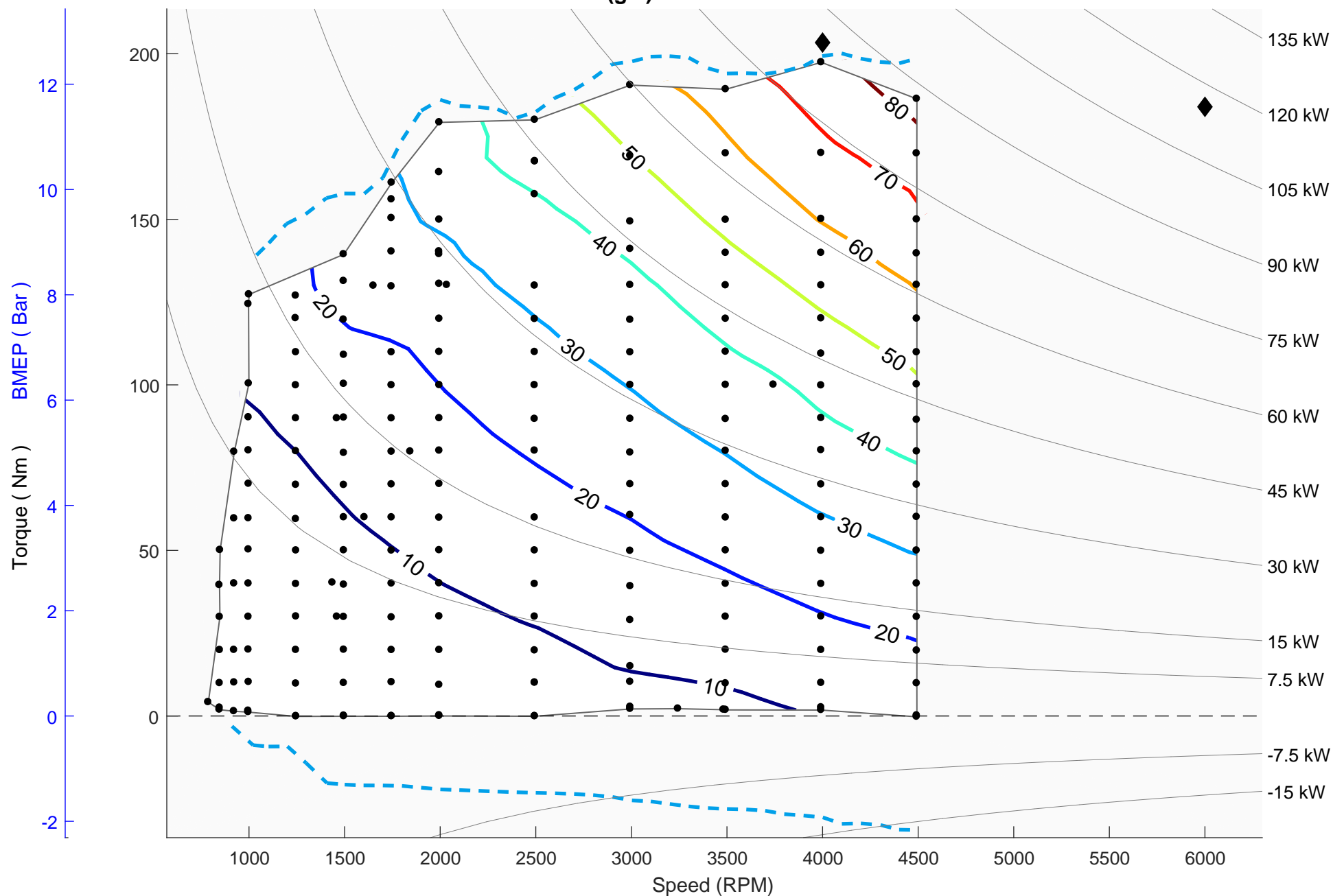
Oil Sump Temp (degC) - Oil Temperature



2014 Mazda 2.0L SKYACTIV-G Engine LEV III Fuel - Test Data Plots

Steady State

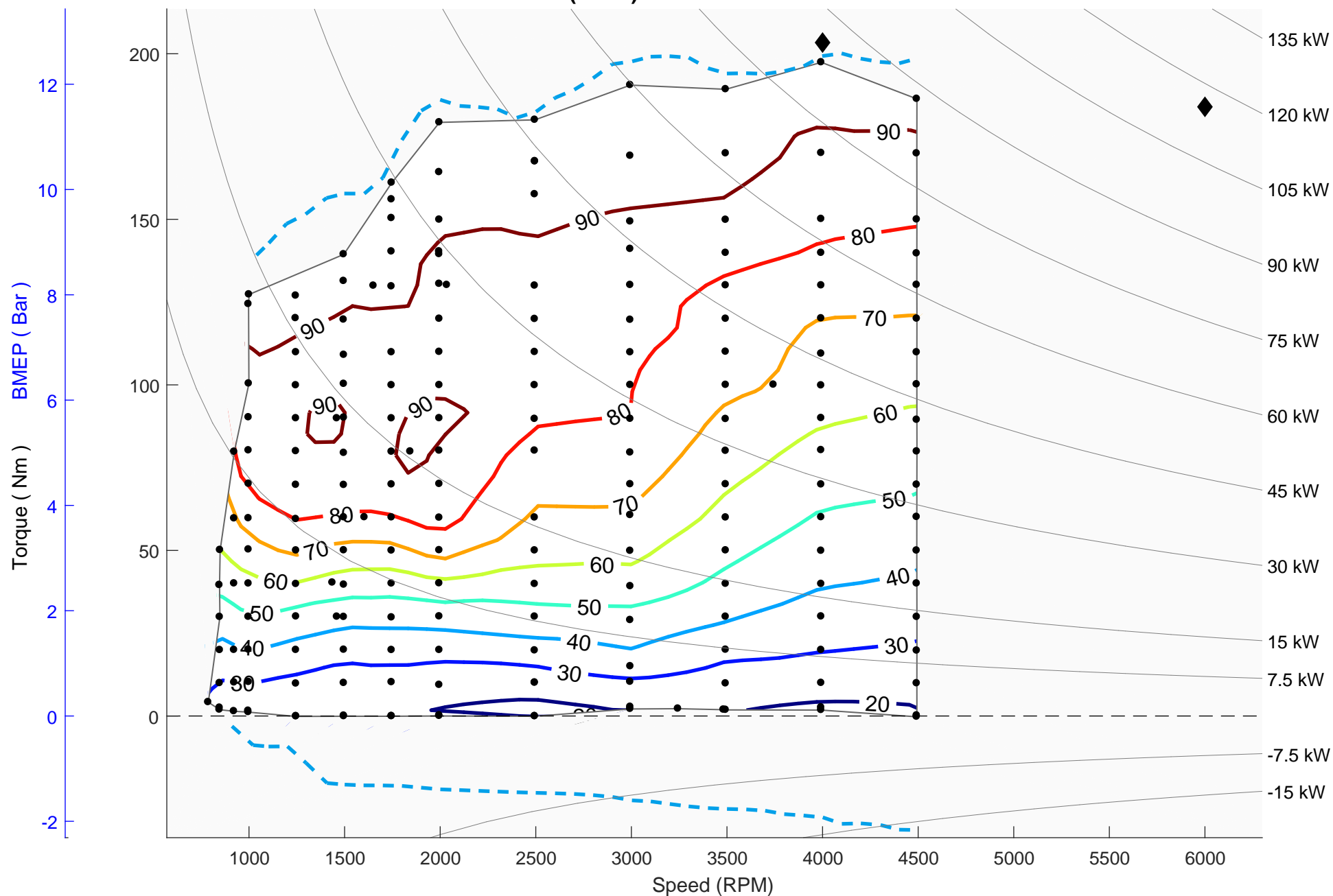
Inlet Air Flow (g/s) - Air Flow Measured with LFE



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Steady State

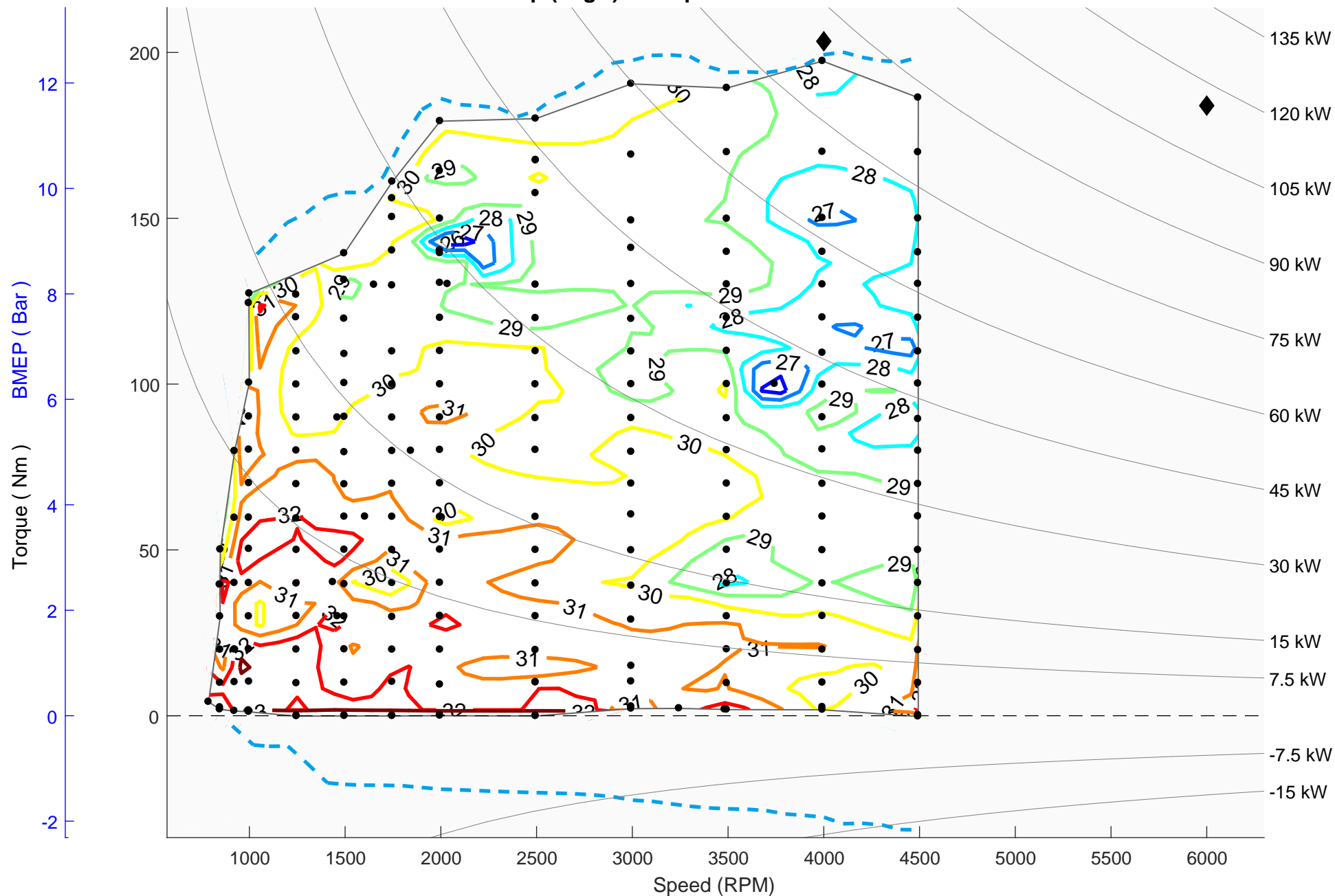
Intake Manifold Press (kPaA) - Pressure Measured in the Intake Manifold



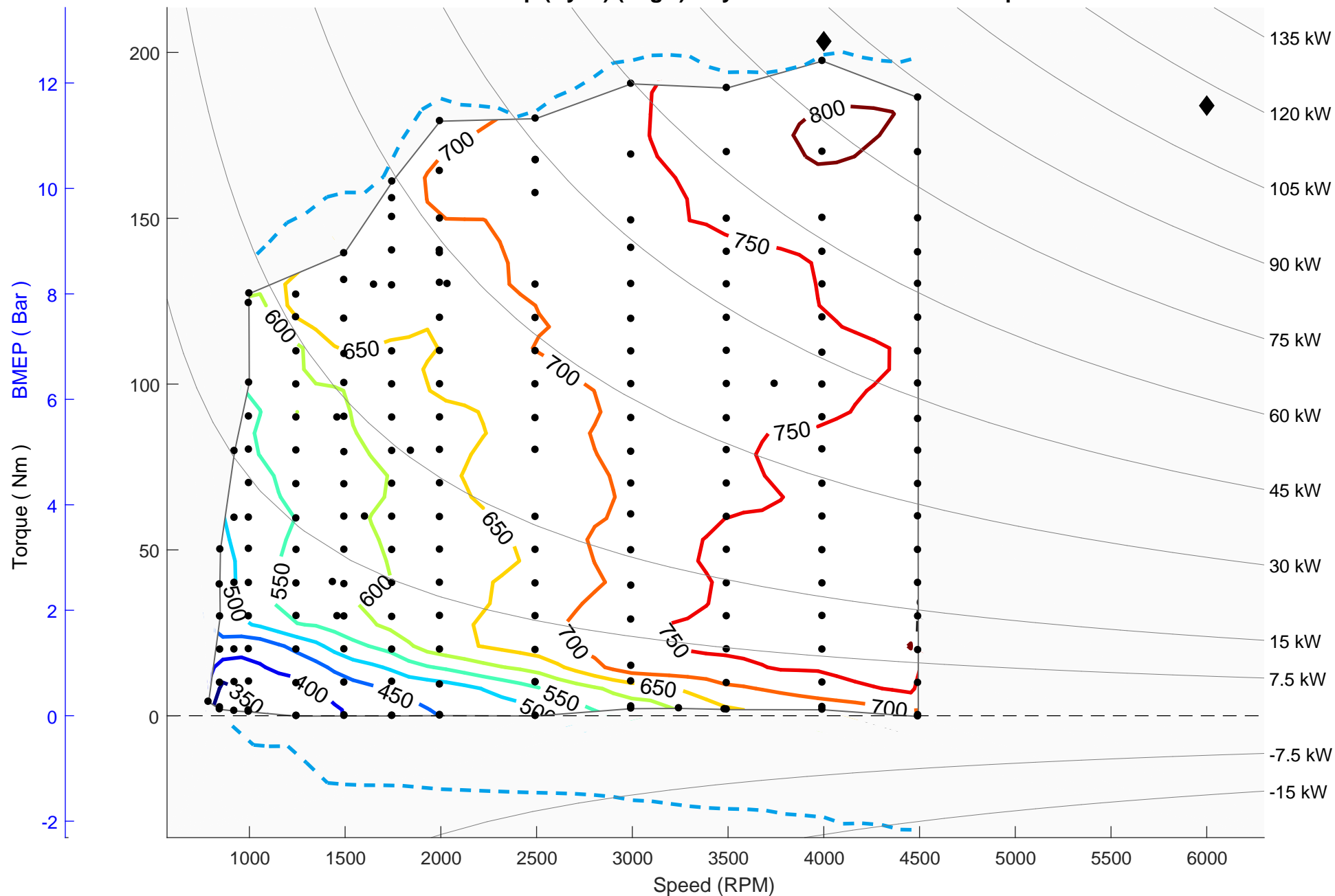
2014 Mazda 2.0L SKYACTIV-G Engine LEV III Fuel - Test Data Plots

Steady State

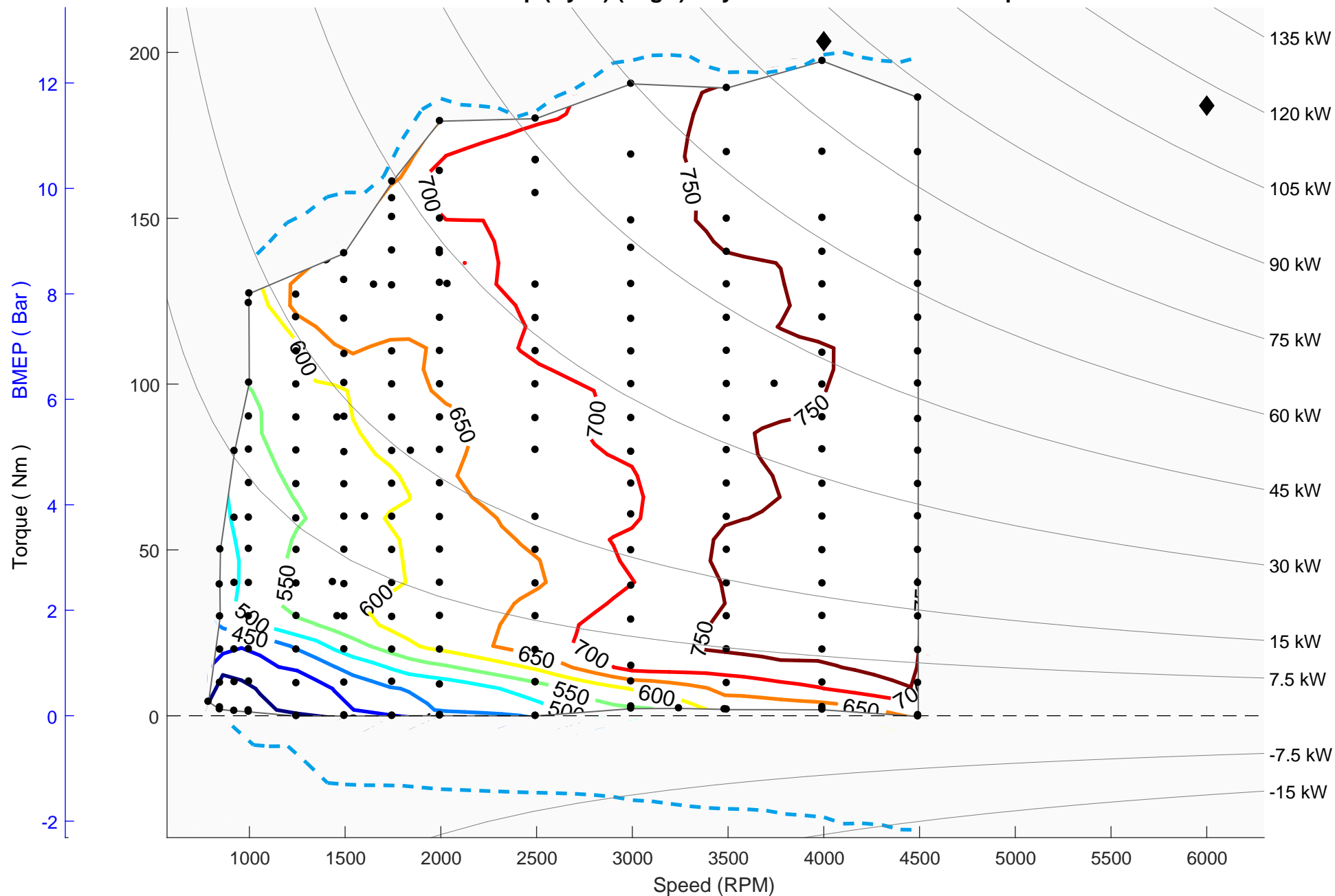
Intake Manifold Temp (degC) - Temperature Measured in the Intake Manifold



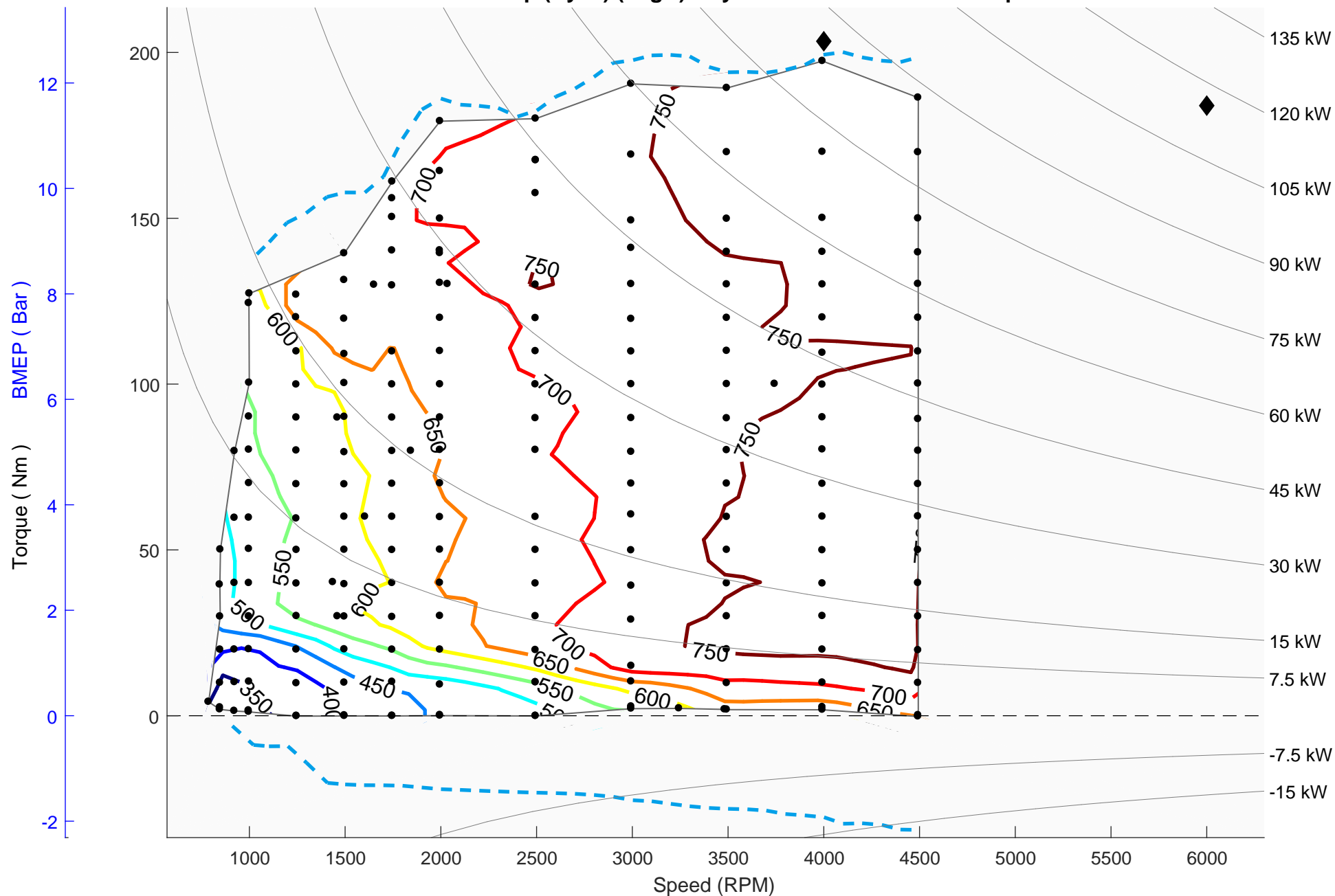
2014 Mazda 2.0L SKYACTIV-G Engine LEV III Fuel - Test Data Plots
Steady State
Exhaust Port Temp (Cyl 1) (degC) - Cylinder 1 Exhaust Port Temperature



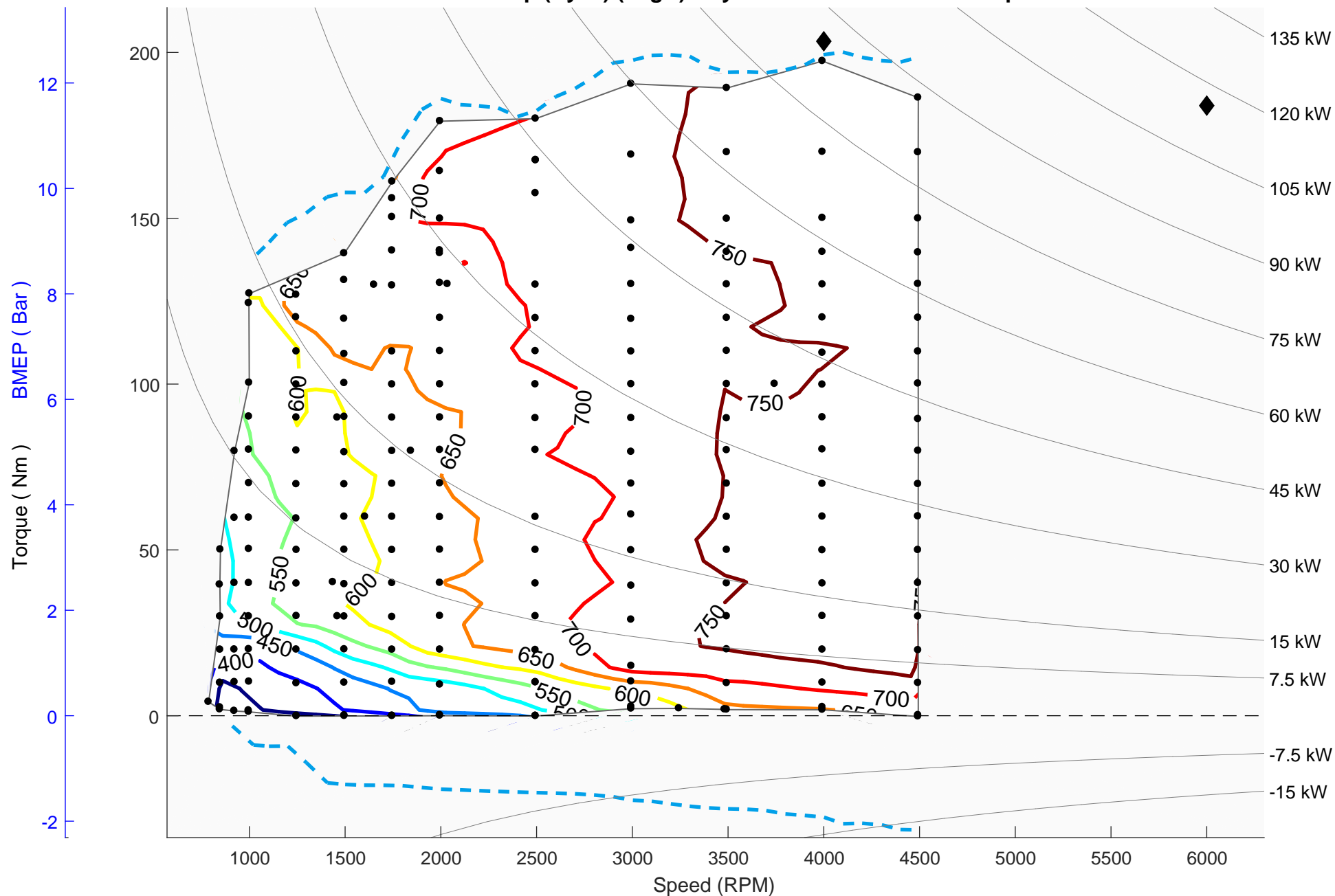
2014 Mazda 2.0L SKYACTIV-G Engine LEV III Fuel - Test Data Plots
Steady State
Exhaust Port Temp (Cyl 2) (degC) - Cylinder 2 Exhaust Port Temperature



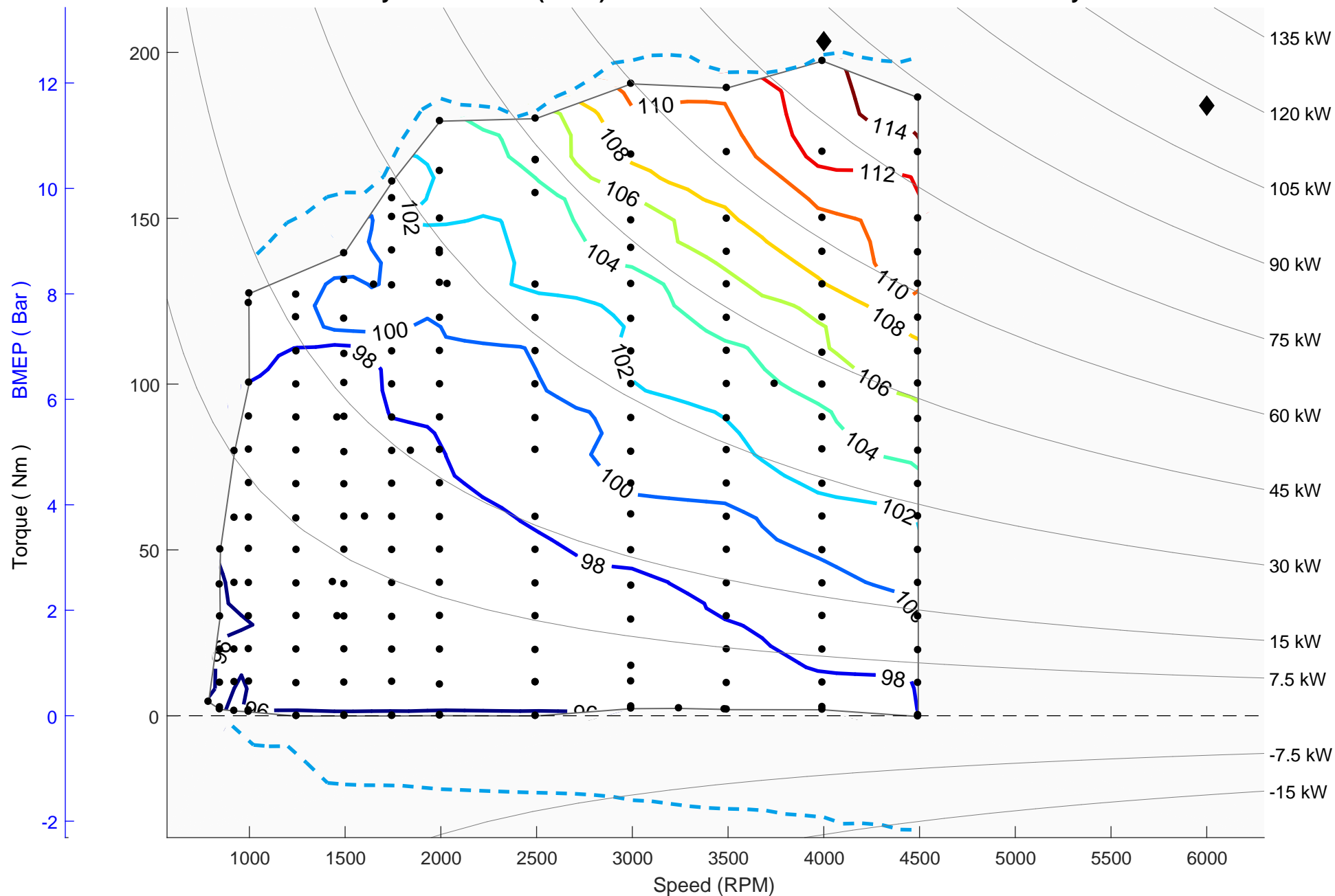
2014 Mazda 2.0L SKYACTIV-G Engine LEV III Fuel - Test Data Plots
Steady State
Exhaust Port Temp (Cyl 3) (degC) - Cylinder 3 Exhaust Port Temperature



2014 Mazda 2.0L SKYACTIV-G Engine LEV III Fuel - Test Data Plots
Steady State
Exhaust Port Temp (Cyl 4) (degC) - Cylinder 4 Exhaust Port Temperature



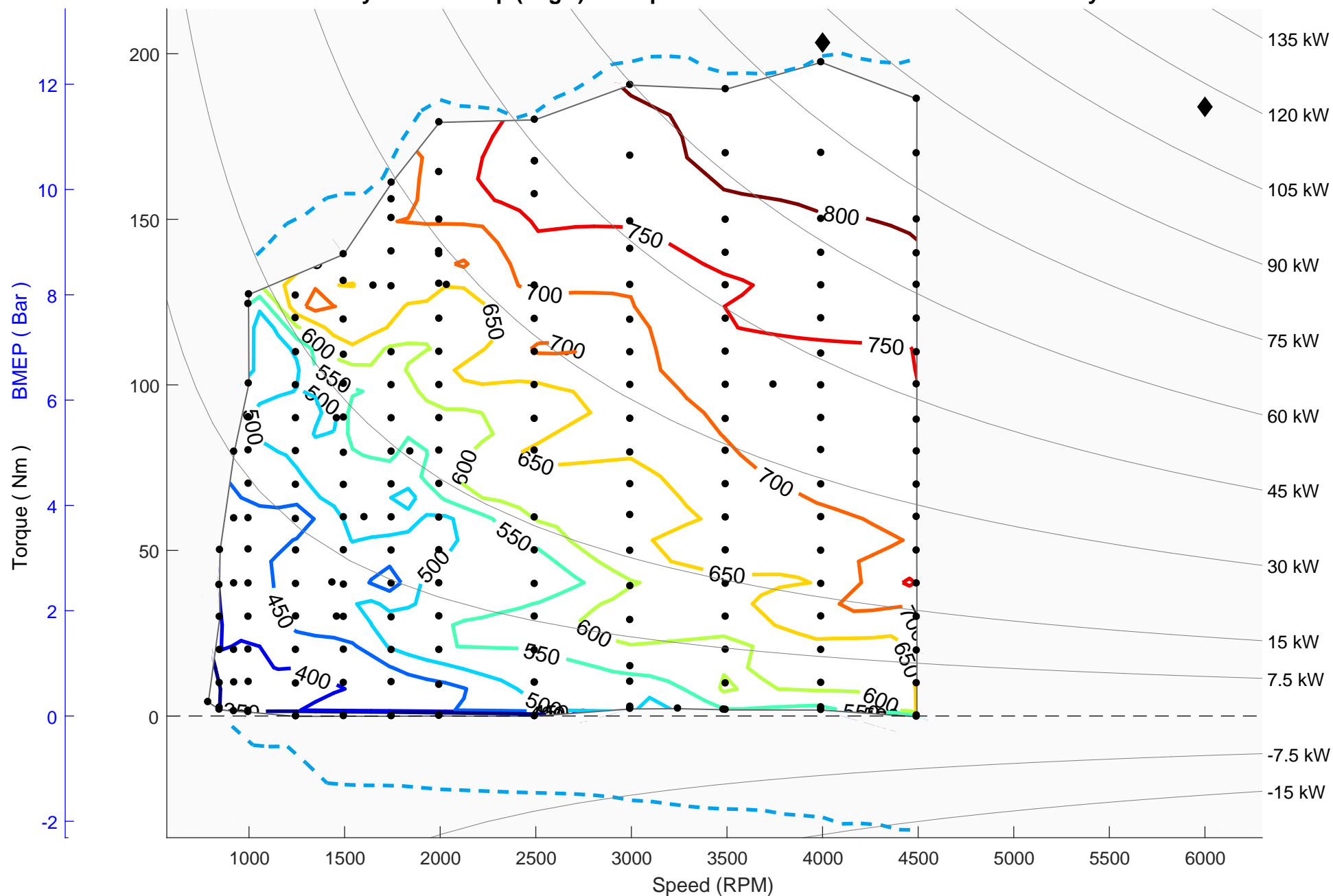
2014 Mazda 2.0L SKYACTIV-G Engine LEV III Fuel - Test Data Plots
Steady State
Catalyst Inlet Press (kPaA) - Pressure Measured at the Inlet to the Catalyst



2014 Mazda 2.0L SKYACTIV-G Engine LEV III Fuel - Test Data Plots

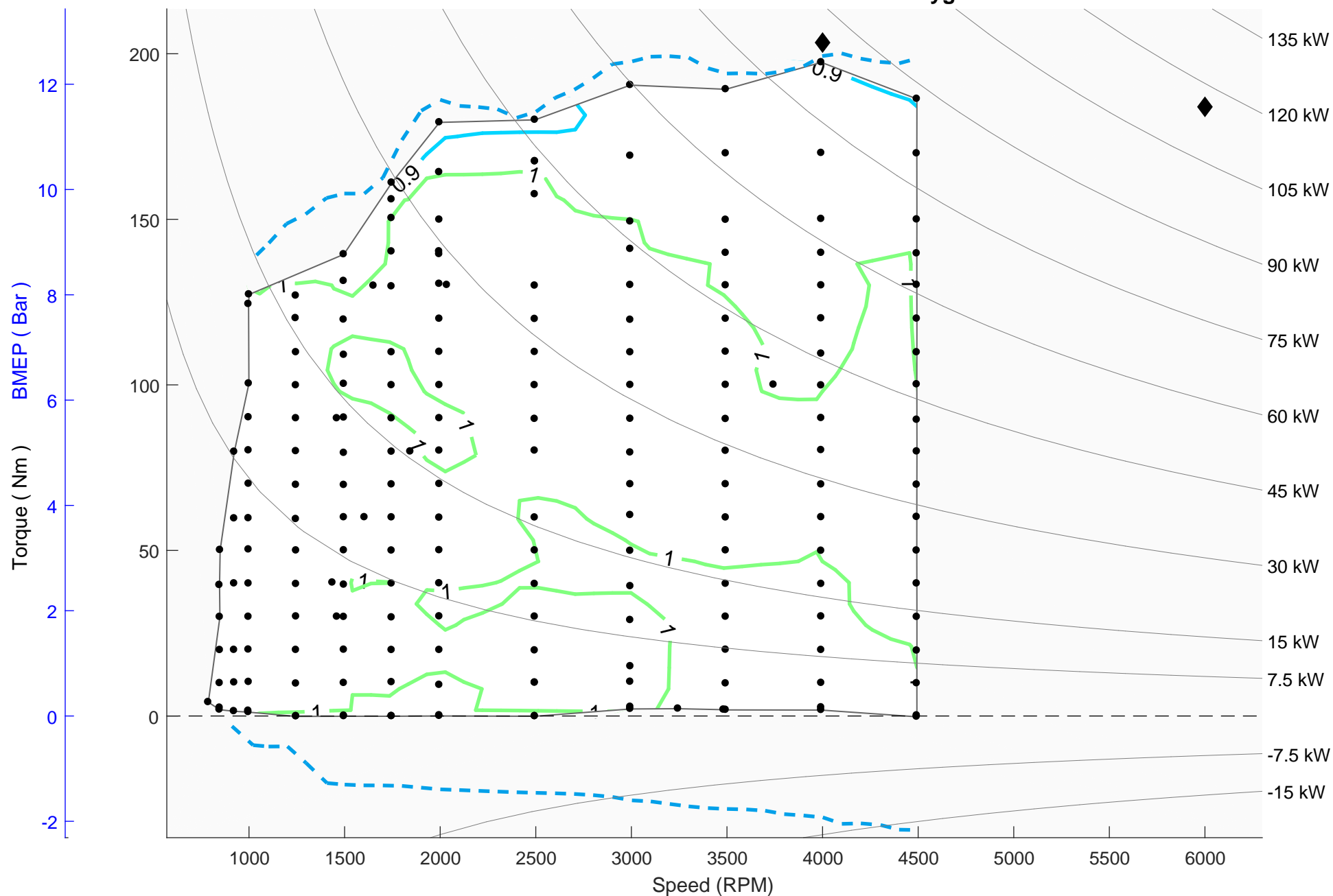
Steady State

Catalyst Inlet Temp (degC) - Temperature Measured at the Inlet to the Catalyst



2014 Mazda 2.0L SKYACTIV-G Engine LEV III Fuel - Test Data Plots
Steady State

Exhaust Lambda - Measured via Wideband Exhaust Oxygen Sensor*

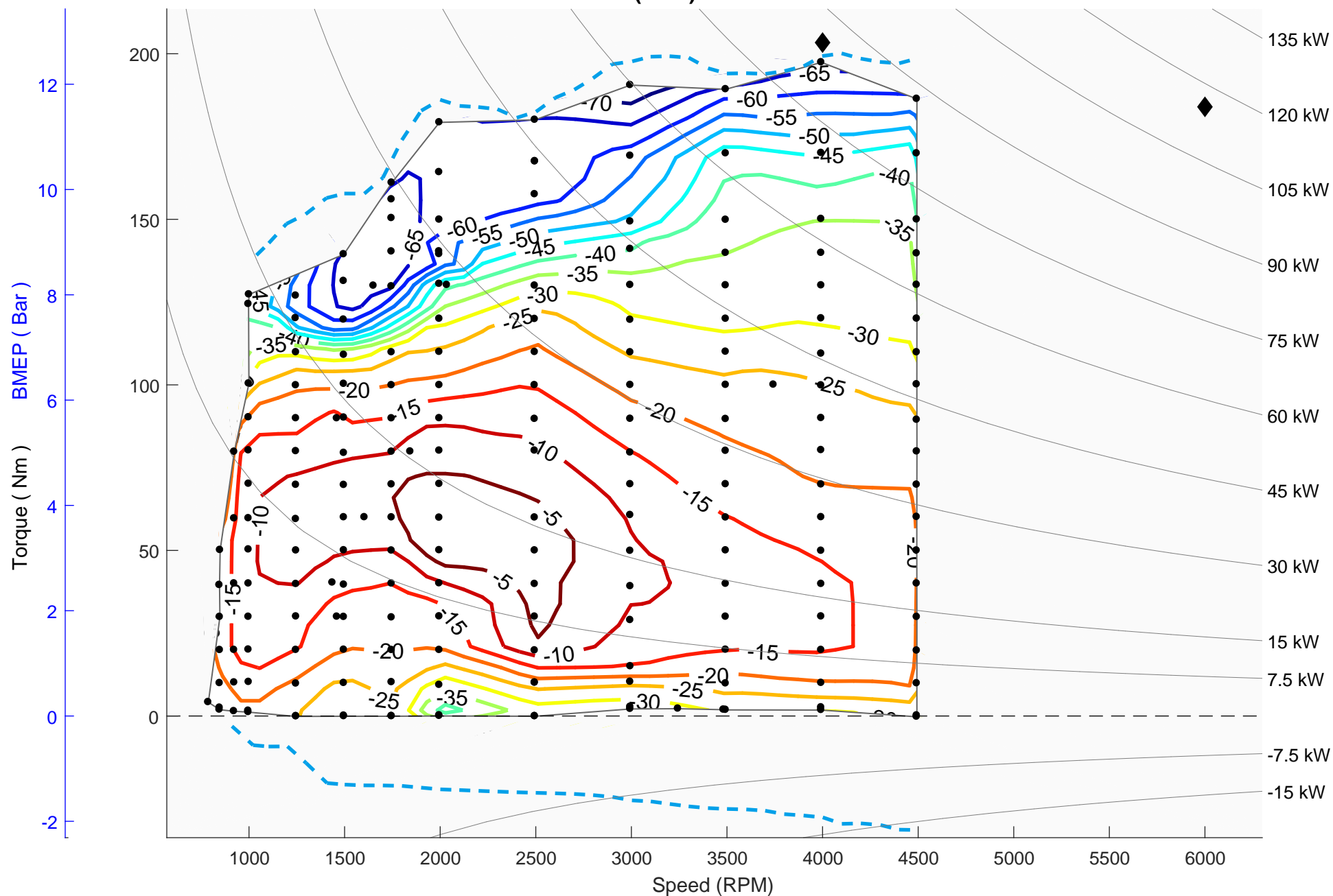


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Steady State

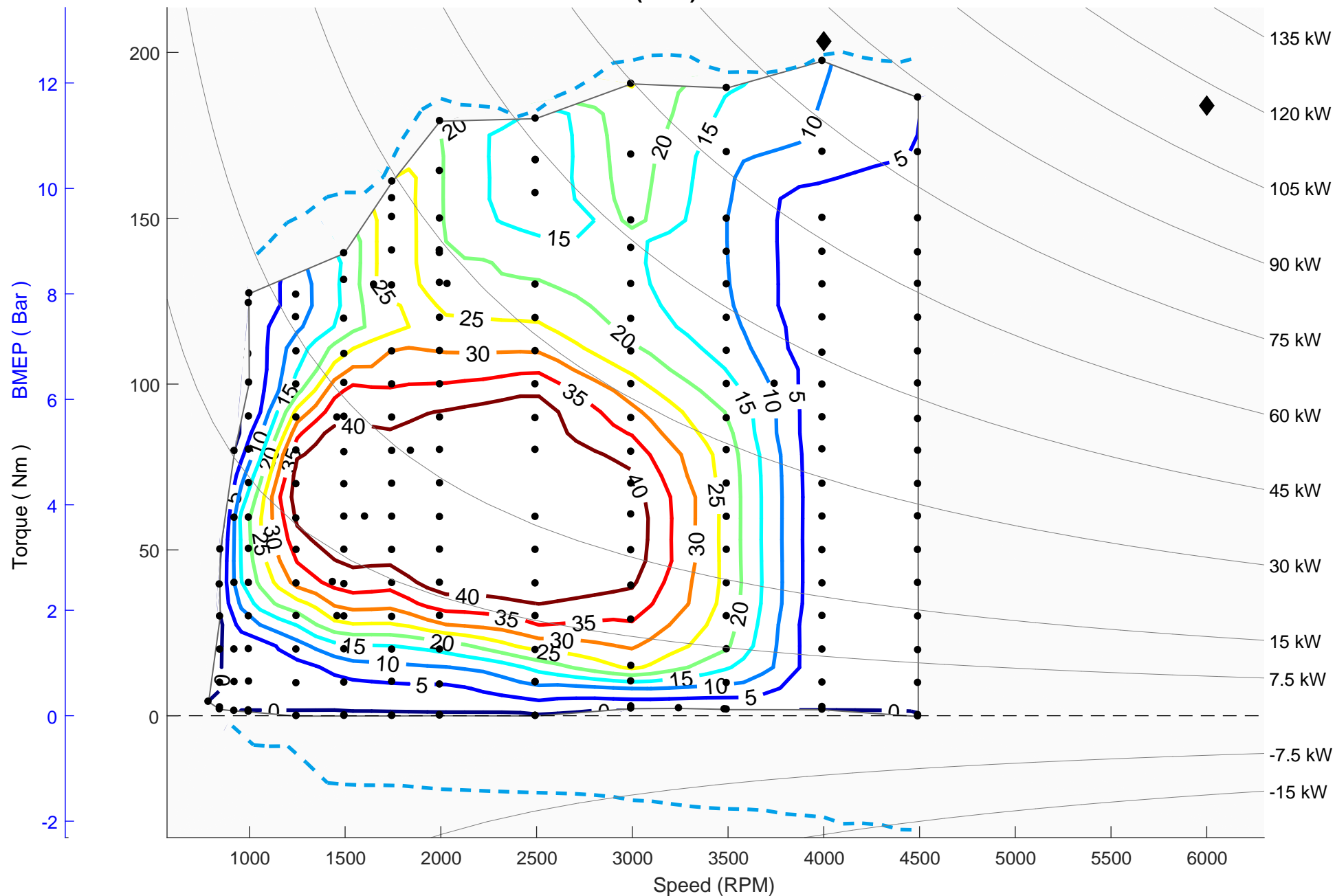
Intake Cam Phase (CAD) - Intake Cam Phaser Retard



2014 Mazda 2.0L SKYACTIV-G Engine LEV III Fuel - Test Data Plots

Steady State

Exhaust Cam Phase (CAD) - Exhaust Cam Phaser Retard



2014 Mazda 2.0L SKYACTIV-G Engine LEV III Fuel - Test Data Plots

Steady State

Valve Overlap (CAD) - Estimated Valve Timing Overlap from Cam Phase Measurements

