CLAIMS

1. A processor implemented method for estimating errors in a gyroscope sensor, the method comprising:

obtaining, a first gyroscopic data and one or more temperature readings, wherein the first gyroscopic data is obtained from a gyroscopic sensor and wherein the one or more temperature readings are obtained from an onboard sensor;

dividing, the first gyroscopic data into a first set of windows, wherein each window from a first set comprises a specific time period that includes at least a unique subset of the gyroscopic data;

calculating, a bias for each window from the first set of windows based on a corresponding unique subset of the first gyroscopic data, and a corresponding temperature reading;

generating a temperature dependent model for the gyroscopic sensor based on the calculated bias for each window from the first set of windows and the corresponding temperature reading;

obtaining a second gyroscopic data and associated information from the gyroscopic sensor;

updating the bias, using the second gyroscopic data, for the first set of windows; and

determining availability of temperature reading from the onboard sensor.

2. The processor implemented method of claim 1, further comprising:

calculating, using the temperature reading, a bias from the second gyroscopic data for a current temperature.

3. The processor implemented method of claim 3, further comprising

subtracting the calculated bias from the second gyroscopic data, and filtering out one or more dynamic errors from the second gyroscopic data using a non-linear error model.

4. The processor implemented method of claim 1, further comprising:

performing a comparison of the change in the temperature with a predefined threshold; and

estimating a bias for the first set of windows based on the comparison.

5. A system, comprising:

a memory storing instructions;

one or more communication interfaces; and

one or more hardware processors coupled to the memory via the one or more communication interfaces, wherein the one or more hardware processors are configured by the instructions to:

obtain a first gyroscopic data and one or more temperature readings, wherein the first gyroscopic data is obtained from a gyroscopic sensor, and wherein the one or more temperature readings are obtained from an onboard sensor;

divide the first gyroscopic data into a first set of windows, wherein each window from the first set comprises a specific time period that includes at least a unique subset of the gyroscopic data;

calculate a bias for each window from the first set of windows based on a corresponding unique subset of the first gyroscopic data, and a corresponding temperature reading;

generate a temperature dependent model for the gyroscopic sensor based on the calculated bias for each window from the first set of windows and the corresponding temperature reading;

obtain a second gyroscopic data and associated information from the gyroscopic sensor;

update the bias, using the second gyroscopic data, for a first set of windows; and

determine availability of temperature reading from the onboard sensor.

6. The system of claim 5, wherein the one or more hardware processors are further configured by instructions to perform at least one of:

calculating, using the temperature reading, a bias from the second gyroscopic data for a current temperature.

7. The system of claim 5, wherein the one or more hardware processors are further configured by instructions to:

subtract the calculated bias from the second gyroscopic data, and filter out one or more dynamic errors from the second gyroscopic data using a non-linear error model.

8. The system of claim 5, wherein the one or more hardware processors are further configured by instructions to

perform a comparison of the change in the temperature with a predefined threshold; and, estimate a bias for a first set of windows based on the comparison.