

ABSTRACT**SYSTEMS AND METHODS FOR ESTIMATING ERRORS IN
GYROSCOPE SENSORS**

Embodiments of the present disclosure provide systems and methods that
10 establish non-linear components of gyroscope errors which have not been studied
or explored earlier. These errors include but are not limited to non-linear dynamic
error which is a function of the angular velocity itself. Bias instability has been
observed within the same environment of temperature and atmospheric pressure.
In other words, the embodiments of the present disclosure analyse and models
15 static bias errors and dynamic non-linear errors in the gyroscope sensor which
may be used to model and correct errors accordingly in subsequent
measurements. The system provide solution(s) when there is no way of directly
estimating temperature for bias correction of gyroscope, by estimating a
temperature change by considering indirect measurements from other sensors
20 present onboard the device.

[To be published with FIG. 3]