Package 'imuf'

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Title Estimate Orientation of an Inertial Measurement Unit

Version 0.3.0

Description Estimate the orientation of an inertial measurement unit (IMU) with a 3-axis accelerometer and a 3-axis gyroscope using a complementary filter. 'imuf' takes an IMU's accelerometer and gyroscope readings, time duration, its initial orientation, and a gain factor as inputs, and returns an estimate of the IMU's final orientation.

License GPL (>= 3)

Encoding UTF-8

RoxygenNote 7.3.2

LinkingTo Rcpp, RcppEigen

Imports Rcpp

Suggests testthat (>= 3.0.0)

Config/testthat/edition 3

URL https://github.com/gitboosting/imuf, https://gitboosting.github.io/imuf/

BugReports https://github.com/gitboosting/imuf/issues

NeedsCompilation yes

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Repository CRAN

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compUpdate *'compUpdate' update orientation with 3-axis acc and gyr data*

Description

'compUpdate' update orientation with 3-axis acc and gyr data

Usage

```
compUpdate(acc, gyr, dt, initQuat, gain)
```

Arguments

acc	A numeric 3-vector of 3-axis accelerometer readings in g
gyr	A numeric 3-vector of 3-axis gyroscope readings in rad/sec
dt	A numeric of time duration in sec
initQuat	A numeric 4-vector of the starting orientation in quaternion
gain	A numeric gain factor between 0 and 1

Value

A numeric 4-vector of the ending orientation in quaternion

Examples

```
compUpdate(c(0, 0, -1), c(1, 0, 0), 0.1, c(1, 0, 0, 0), 0.1)
```

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