

MATLAB. What is more important is that the design process of the codes is described in detail, which is good for the readers to be familiar with the coding of the Kalman filter algorithms. The results of the codes are also analyzed to judge the correctness of the codes or the performance of the algorithms. To help the readers improve the ability of debugging the codes, some scenarios with typical errors are designed. To evaluate the performance of the algorithms, some typical scenarios are also designed with the different initial conditions so that the results can be compared. The example code design is the main part of the chapters focused on algorithms.

5. Concluding remarks

Since many breakthroughs have been achieved in Kalman filter, it is necessary to include the newly research outcomes in the textbook. The obvious drawbacks of the existing books, such as the few examples and assignments, are also not

good for the readers to learn by themselves. In this paper, the design of a new Kalman filter book for undergraduate is put forward. The structure of the book content is convenient for the future expansion. The examples and the assignments are targeted for the readers to learn by themselves. The code design processes are especially useful for the new learners to practice the algorithm tentatively. The book design method can also be referred as an example for other specialized books.

6. References

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