|  |
| --- |
|  |
| Book Name: | **Morden control theory** |
| Manuscript Number: | **Ms\_BP\_8574A.6** |
| Title of the Manuscript:  | **State Feedback and State Observer** |
| Type of the Article | **Book chapter** |

|  |
| --- |
| PART 1: Review Comments |
|  | Reviewer’s comment | Author’s comment *(If agreed with the reviewer, correct the manuscript and highlight that part in the manuscript. Authors must write his/her feedback here)* |
| Is the manuscript important for the scientific community?Please write a few sentences explaining your answer | Yes, the manuscript gave a thorough insight on the title. This is an essential aspect in Process control. |  |
| Is the title of the article suitable?Do you have any alternative Title in your mind? | Yes |  |
| Is the abstract of the article comprehensive?If your answer is No, please provide suggestions | Not applicable |  |
| Do you think the English quality of the article is suitable for scholarly communications?If your answer is No, please provide suggestions | Yes |  |
| Please provide your comments regarding the appropriatenessof different sections of the manuscript. | The work is thoroughly written, and each section were well discussed, however, there are some comments that can make the work more robust.Some essentials are:* The use of personal pronouns needs to be changed to passive sentences.
* The use of ‘Please’ needs to be removed in the manuscript.
* There should be space between word and number. Generally, the work needs to be checked for spacing.
* Recheck through for grammatical errors.
* Page 1 Line 1: It will be better if passive sentence is used. Example, the design of relative controllers and state observers are needed ……
* Page 1 Line 3: Space after …parameters. Aim
* Page 1 Line 3: Aim at …. This may be rewritten as To achieve the controller performance at different condition, it is required to know that state parameters ….
* 6.1 Line 2: classical control theory which composed of two …
* 6.1 Line 3, remove ‘however,’
* 6.1 line 4, ‘while’ is better to replace ‘but’.
* 6.1 para 1 line 6 ‘Just what … location’. I think it is an incomplete sentence because a suitable location of what, it will be better if that phrase is recouch.
* 6.1 para 2 line 7: decoupled
* 6.2: The first paragraph is 6.2.1 might be rewritten as follows:

State feedback occurs when each state variable in system multiplies corresponding feedback coefficient and state variable is fed back to input port to add reference input, and their summation is used as control signal of controlled system.* Figure 6-1:
* Page 295: The sentence ‘After equation(6.3) is substituted into equation(6.1), we can gain the following expressions:’ might be rewritten as:

Substituting Equation (6.3) into Equation (6.1) results into Equation 6.4.* Page 295: ‘we can know that’ should be removed.
* Check through the manuscript, the use of passive sentence is better, hence, suggestion is that you should avoid the use of personal pronoun such as ‘I’ or ‘We’.
* 6.2.3: brief explanation on the title is essential.
* Page 298 line 5: eigen value
* 6.2.4: ‘The above’ might be rewritten as The feedback basic structures discussed in section 6.2.3 does not …
* 6.2.4: ‘dynamic compensator which output feedback connection is shown in figure6-4’ check the red highlight for necessary correction.
* 6.2.5: the Theorem needs to be checked for its grammar.
* There should be space between figure and letter example Figure 6.2, Example 6. 1 etc. Check through your work.
* Example 6.1 can be edited as:

Example 6.1: Analyze the controllability and observability of the following dynamic system given the state feedback K = [-1 -2].Example 6.2, 6.3 and other similarly written examples in the chapter can be re-written is the above format.* rank Sc
* page 299: 3rd to last line: remove namely
* 6.4.1 line 2: Engineers
* 6.4.1 line 3: It should be performance indices. You can confirm
* Page 310 line 1 and 2 can be rewritten as:

If the poles of closed-loop system is the desired poles, Equation (6.42) is equal to Equation (6.44)* Page 310: The sentence ‘Hence, solve above equation(6.46) and then gain the following equation group’ can be rewritten as:

Equation 6.46 can be rewritten as Equation 6.47* …keeps stable is that uncontrollable poles of system is stable pole

Might be edited thus:… is stable if the uncontrollable poles of system are stable.* Page 312 paragraph 1: complicated
* Page 314: step 1:
* Page 315: Step 2:
* Page 317: Performance indices
* Page 317: Example 6.9 can be rewritten as

Given the following transfer function and performance indices for a controllerG(s) = ….Overshoot: …....Assign the given performance indices by pole assignment to state feedback controller.* Page 328. We think that such system can be decoupling should be removed if not confirmed.
* The use of Please might be needed to be removed in the entire manuscript.
* Page 337, 6.7 line 9: The device can be changed into

 The system which could realize this idea is called state observer system.* 379 Review questions.

Remove the use of ‘Please’6.2 What are the specific….6.4 What is the difference between …6.8 Briefly explain the ….6.9 What is the difference and ….6.11 What are the whole ….6.12 Explain the pole-assignment …* Problem 6.1 Find the character …
* Problem 6.2 last line

No need for (1) The last line needed to be reframed in relation to the control system equation given in Problem 6.2.* There are no cited and listed references in the work. My opinion on this there should be references in the work.
* I also suggest that there should be basic definitions of the context that you are working on. Example is the definition of state feedback, decoupling etc. This will attract more readers to get more information and reference the book.
 |  |
| Do you think that the references in the manuscript are proper, recent and sufficient?If you have any suggestions, please write here. | Yes |  |

|  |
| --- |
| **PART 2:**  |
|  | **Reviewer’s comment** | **Author’s comment** *(if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)* |
| **Are there ethical issues in this manuscript?** | *(If yes, Kindly please write down the ethical issues here in details)* |  |
| **Reviewer Details:** |
| Name: | **Aminah Abolore Sulayman** |
| Department, University & Country | **Ladoke Akintola University of Technology, Nigeria** |