

Name of Candidate: Yang Xiaozhou

Department: Industrial Systems Engineering & Management

Title of thesis: Power System Transmission Line Outage Detection and Identification: A Physics-Informed Data-Driven Approach

Comments

1. The thesis contains sufficient evidence of originality and scientific contributions to warrant partial fulfilment of a Ph.D. degree in the Department of Industrial Systems Engineering & Management.
2. The thesis presented a method for the detection of power system transmission line outage based on physical principles as well as statistical data analytics. The proposed approach is able to achieve outage detection and identification through integration of statistical monitoring and diagnosis with power system physical modelling.
3. The work was very well developed systematically through the main body of the thesis. Overall, the thesis is well-written and presented with little language related problems. However, there are some minor issues mentioned below that may need to be clarified for a better readability of the thesis before it can be fully accepted.
4. Appendix to Chapter 3 should not have a section number. Either you remove the section number 3.7, or make it an Appendix A to Chapter 3. Or move all your appendixes to the end of the thesis.
5. Algorithm 1 (page 52), what are the inputs and outputs? What does it return? Line 17 and 18 are confusing.
6. Appendix to Chapter 4 should not have a section number. See same remark as above. Suggest move to the end of the thesis if it is too lengthy.

7. Appendix to Chapter 5 should not have a section number. See same remarks as
8. The conclusion chapter should have explicit sections on contributions, limitations and future work.