Ziqing Ma

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EDUCATION

Northwestern Polytechnical University Sep. 2017 - Apr. 2020
Master, Control Science and Engineering ,School of Automation *Xi'an, China*

- Honors: The First-prize Academic Scholarship(2017), The Second-prize Scholarship for Social Activities(2018)
- Relevant Coursework: Aircraft Trajectory Planning and Optimization(95), Analysis and Design of Reliability for Control System(90), Computer Control System(83), Linear System Theory(84), Modeling and Simulation of Control System(80)

Northwestern Polytechnical University Sep. 2013 - Jun. 2017
Bachelor, Electrical Engineering and Automation ,School of Aeronautics *Xi'an, China*

- Honors: Outstanding Student and the First-prize Scholarship(2014), The Second Prize for Band C in National English Competition for College Students(2014), The Second Prize for Automatic Control Experimental Skill competition(2015)
- Relevant Coursework: Airplane Accident Investigation and Analysis(96), Flight Control System(81), Modern Aviation Instruments System(95), Principles and System of Civil Airplane(96)

RESEARCH INTERESTS

- Flight Control System, Aircraft Aerodynamics
- Automatic Control
- Sensor Technology, Information Fusion

RESEARCH EXPERIENCE

Sensor System Design and Evaluation Technology of Flight Control System Apr. 2017 - Oct. 2018
Quantitative Analysis on Sensor Dynamic Characteristics In Flight Control System

- Simplified the transfer function expression of dynamic characteristics of the sensor to a second-order oscillation element through mathematical modeling. Built the model of the aircraft and completed the control law design. Innovatively introduced the mathematical model of the sensor into the feedback loop of the corresponding flight control system. Made an analysis on the simulation results and drew a conclusion of the influence of the sensor's dynamic characteristics on the flight control system.

Method of Evaluating Sensor Signal Characteristics In Flight Control System

- Analyzed the sensor involved based on the function of the flight control system and completed the sensor parameter design based on the performance of the system. Summarized and attained a flow chart of the sensor parameter design method. Varied the parameters of the sensor's signal characteristics in the process of mathematical modeling and simulation. Recorded and quantitatively analyzed the flight control system's performances and the aircraft handling qualities under different signal characteristic parameters. Established the database that collectively described the influence of sensor signal characteristics on flight control system's performance and aircraft handling quality. The established database and the evaluation method can be used to evaluate the influence of the sensor in the flight control system, and also provide reference for the parameter design and selection of the sensor on-board.

Evolution and Impact of Information Networks Feb. 2016 - Feb. 2016

- In cooperation with two other teammates, built three transmission dynamics network models to comprehensively evaluate the transmission capabilities of the information networks on the basis of the "pull and push" theory and the bi-layer network methodology. Verified the reliability of our models by forecasting the present situation using the previous data and comparing them to the known data nowadays. Dynamically modified the changing course of the public interest and quantified the consequences by the preference distance. Analyzed the models' sensitivity by bringing minor changes into the decay rates.

PAPERS

[1] Ziqing Ma. "Analysis on Sensor Dynamic Characteristics in Flight Control System." 38th Chinese Control Conference (CCC2019), July 27-30, 2019, Guangzhou, China. (Paper accepted and to be added to IEEE Xplore)

[2] Ziqing Ma, Tingyi Li, Xingyu Wu. "Evolution and Impact of Information Networks." Honorable Mention, Interdisciplinary Contest In Modeling 2016

PERSONAL EXPERIENCES

- Took part in "Open Semina" summer training scholarship program in the University of Tokyo. July 2018 in Tokyo, Japan
- Interviewed Prof. Wolfgang Ketterle, German Physicist and Nobel laureate, as a student reporter. November 2014 in Xi'an, China
- Led the documentary filming of the school sports meeting and played an important role of the producer and the reporter for two consecutive years. April 2014-2015 in Xi'an, China
- Served as a volunteer in the "Youthinkgreen" environmental protection project. Attended the Global Youth Climate Summit held in Wolfsburg and delivered the opening speech at the summit. April 2012 in Wolfsburg, Germany

MISCELLANEOUS

- **Skills:** C Language (Proficient), MATLAB (Proficient), Microsoft Office (Proficient), DSP (Basic)
- **Languages:** English (IELTS 7.0), German (TestDaF 15),Chinese (Native)
- **Certifications:** C Language(National Computer Rank Examination, Level II)
- **Interests:** Chinese Classic Dance (Level 6), Swimming