

TEMATICA

propusă pentru admiterea la doctorat - septembrie 2019

Domeniul de doctorat: *Ingineria Sistemelor*

Conducător de doctorat: *prof. dr. ing. MOLDOVEANU Florin Dumitru*

TEMATICĂ:

- **Structuri de reglare pentru acționările electrice cu mașini de inducție.**

BIBLIOGRAFIE RECOMANDATĂ:

- [1] De Doncker, R., Pulle, D. W. J., Veltman, A. "Advanced Electrical Drives: Analysis, Modeling, Control", Springer, 2011.
- [2] Ogata, K. "Modern Control Engineering", 4th Ed., Prentice Hall, New Jersey, 2001.
- [3] Bishop, R. "Modern Control System Analysis and Design Using MATLAB", Addison Wesley Publishing Company, 2003.

- **Sisteme cu structură variabilă, funcționând în regim de alunecare.**

BIBLIOGRAFIE RECOMANDATĂ:

- [1] Hung, J. Y., Gao, W., Hung, J. C. "Variable Structure Control: A Survey", IEEE Transactions on Industrial Electronics, Vol. 40, No. 1, February 1993, pp. 2-22.
- [2] Edwards, Ch., Spurgeon, S. K. "Sliding Mode Control. Theory and Applications", Taylor & Francis, London, 1998.
- [3] Shtessel, Y., Edwards, Ch., Fridman, L., Levant, A. "Sliding Mode Control and Observation", Control Engineering, Birkhauser Verlag, Springer, 2014.

- **Sisteme dinamice cu evenimente discrete.**

BIBLIOGRAFIE RECOMANDATĂ:

- [1] Păstrăvanu, O., Matcovschi, M., Mahulea, C. "Aplicații ale rețelelor Petri în studierea sisteme cu evenimente discrete", Ed. Gh. Asachi, Iași, 2002.
- [2] Cassandras, C., Lafortune, S. "Introduction to Discrete Event Systems", 2nd Ed., Springer, London, 2010.

[3] Kumar, R., Garg, V. K. "Modeling and Control of Logical Discrete Event Systems", Springer, 1995.

○ **Sisteme de conducere a roboților.**

BIBLIOGRAFIE RECOMANDATĂ:

[1] Siciliano, B., Sciavicco, L., Villani, L., Oriolo, G. "Robotics. Modelling, Planning and Control", Springer-Verlag, London, 2010.

[2] Khalil, W., Dombre, E. "Modeling, Identification and Control of Robots", Elsevier Ltd., 2004.

[3] Ogata, K. "Modern Control Engineering", 4th Ed., Prentice Hall, New Jersey, 2001.

○ **Securitatea cibernetică în contextul celei de-a patra revoluții industriale.**

BIBLIOGRAFIE RECOMANDATĂ:

[1] ENISA "Industry 4.0 – Cyber Security Challenges and Recommendations", <https://www.enisa.europa.eu/publications/industry-4-0-cybersecurity-challenges-and-recommendations>, 20 mai 2019.

[2] Beyzanur, C. E., Bilal, E. "Overview of Cyber Security in the Industry 4.0 Era", Industry 4.0: Managing the Digital Transformation, Ustundag, A., Cevikan, E., Springer, 2018.

[3] Lee, J., Davari, H., Singh, J., Pandhare, V. "Industrial Artificial Intelligence for Industry 4.0-based Manufacturing Systems", Society of Manufacturing Engineers (SME), Elsevier, 2018.

TOPICS

proposed for the doctoral studies admission contest – September 2019

Doctoral field: *Systems Engineering* – September 2019

Doctoral coordinator: *prof. dr. eng. Florin Dumitru MOLDOVEANU*

TOPIC:

- **Control Structures for Induction Motor Electric Drives.**

RECOMMENDED BIBLIOGRAPHY:

[1] De Doncker, R., Pulle, D. W. J., Veltman, A. "Advanced Electrical Drives: Analysis, Modeling, Control", Springer, 2011.

[2] Ogata, K. "Modern Control Engineering", 4th Ed., Prentice Hall, New Jersey, 2001.

[3] Bishop, R. "Modern Control System Analysis and Design Using MATLAB", Addison Wesley Publishing Company, 2003.

- **Variable Structure Systems in Sliding Mode Regime.**

RECOMMENDED BIBLIOGRAPHY:

[1] Hung, J. Y., Gao, W., Hung, J. C. "Variable Structure Control: A Survey", IEEE Transactions on Industrial Electronics, Vol. 40, No. 1, February 1993, pp. 2-22.

[2] Edwards, Ch., Spurgeon, S. K. "Sliding Mode Control. Theory and Applications", Taylor & Francis, London, 1998.

[3] Shtessel, Y., Edwards, Ch., Fridman, L., Levant, A. "Sliding Mode Control and Observation", Control Engineering, Birkhauser Verlag, Springer, 2014.

- **Discrete Event Dynamic Systems.**

RECOMMENDED BIBLIOGRAPHY:

[1] Pastravanu, O., Matcovschi, M., Mahulea, C. "Applications of Petri Networks in Discrete Event Systems", (in Romanian), Ed. Gh. Asachi, Iasi, Romania, 2002.

[2] Cassandras, C., Lafortune, S. "Introduction to Discrete Event Systems", 2nd Ed., Springer, London, 2010.

[3] Kumar, R., Garg, V. K. "Modeling and Control of Logical Discrete Event Systems", Springer, 1995.

- **Robots Control Systems.**

RECOMMENDED BIBLIOGRAPHY:

[1] Siciliano, B., Sciavicco, L., Villani, L., Oriolo, G. "Robotics. Modelling, Planning and Control", Springer-Verlag, London, 2010.

[2] Khalil, W., Dombre, E. "Modeling, Identification and Control of Robots", Elsevier Ltd., 2004.

[3] Ogata, K. "Modern Control Engineering", 4th Ed., Prentice Hall, New Jersey, 2001.

- **Cybersecurity in the Context of Industry 4.0.**

RECOMMENDED BIBLIOGRAPHY:

[1] ENISA, " Industry 4.0 – Cyber Security Challenges and Recommendations", <https://www.enisa.europa.eu/publications/industry-4-0-cybersecurity-challenges-and-recommendations>, 20 May 2019.

[2] Beyzanur, C. E., Bilal, E. "Overview of Cyber Security in the Industry 4.0 Era", Industry 4.0: Managing The Digital Transformation, Ustundag, A., Cevikan, E., Springer, 2018.

[3] Lee, J., Davari, H., Singh, J., Pandhare, V. "Industrial Artificial Intelligence for Industry 4.0-based Manufacturing Systems", Society of Manufacturing Engineers (SME), Elsevier, 2018.