

Universitatea Transilvania din Braşov

Facultatea de Inginerie Electrică și Știința Calculatoarelor

Departamentul de Inginerie Electrică și Fizică Aplicată

Tematica propusă pentru admiterea la doctorat Septembrie 2019

Domeniul de doctorat **Inginerie electrică**

Conducător de doctorat **Prof.dr.ing. Elena Helerea**

Tematica 1: Metode și tehnici de monitorizare a calității energiei electrice și de reducere a pierderilor în rețelele electrice cu generare distribuită

Bibliografie recomandată:

1. Suslov K., Solonina N., Gherasimov D., *Assessment of an impact of power supply participants on power quality*, The International Conference on Harmonics and Quality of Power (ICHQP), 2018, pp. 1-6.
2. Dugan R., s.a, *Electric power system quality*, Mc Grow Hill, 2004 (cap. 1-4, 9).
3. Helerea E., *Electrical Energy Quality Monitoring*, Course notes, CD, Transilvania University Library, 2013.
4. Andrei M., Chicco G., Napoli R., Porumb R., Postolache R., Toader C., *Technical and economic challenges to electricity quality regulation*, Revista Energetica, vol. 52, nr. 2, 2004, pp. 50-61.

Tematica 2: Dezvoltarea de metode și instrumente de creștere a imunității echipamentelor electrice la acțiunea câmpurilor electromagnetice - Ecranarea electromagnetică.

Bibliografie recomandată:

1. Nicolaide, A., *Electromagnetics - General theory of the electromagnetic field - Classical and relativistic approaches* (Third edition revised and augmented). [online]. Braşov, Transilvania University Press, Brasov, 2012 (pag. 31-95).
2. Helerea, E., Călin, M. D., *Materials in Electrical Engineering*. [online]. Braşov: Editura Universității Transilvania din Braşov, 2015 (cap. 1, 5).
3. Ogrutan, P., Sandu, P., *Compatibilitate electromagnetică*. [online]. Braşov, Editura Universității Transilvania din Braşov, 1999 (cap. 3-5, 8).

Tematica 3: Diagnoza defectelor și prognoza duratei de viață la componentele și echipamentele electrice.

Bibliografie recomandată:

1. Helerea, E., Materiale electrotehnice. Dielectrici, Editura Universității Transilvania din Brașov, Brașov, 1998 (cap. 7).
2. Notingher P., Dumitran L., s.a, *Determination of the remaining lifetime of power transformers liquid insulations based on the absorption/resorption currents*, The 10-th International Symposium on Advanced Topics in Electrical Engineering (ATEE), 2017, pp. 428 – 433.
3. Măriu , L., Helerea, E., „*Multiple stress life analysis on underground power cables from distribution networks*”, Proceedings of Doctoral Conference on Computing, DoCEIS 2012, 2012, pp. 275-283.

Transilvania University of Braşov

Faculty of Electrical Engineering and Computing Science

Department of Electrical Engineering and Applied Physics

Proposed topic for doctoral studies admission contest – September 2019

Doctoral field Electrical Engineering

Doctoral coordinator Prof. Dr. Eng. Elena Helerea

Topic 1. Methods and techniques for monitoring the energy quality and reducing losses in distributed generation networks

Recommended bibliography:

- 1 Suslov K., Solonina N., Gherasimov D., *Assessment of an impact of power supply participants on power quality*, The International Conference on Harmonics and Quality of Power (ICHQP), 2018, pp. 1-6.
- 2 Dugan R., s.a, *Electric power system quality*, Mc Grow Hill, 2004 (cap. 1-4, 9).
- 3 Helerea E., *Electrical Energy Quality Monitoring*, Course notes, CD, Transilvania University Library, 2013.
- 4 Andrei M., Chicco G., Napoli R., Porumb R., Postolache R., Toader C., *Technical and economic challenges to electricity quality regulation*, Revista Energetica, vol. 52, nr. 2, 2004, pp. 50-61.

Topic 2. Development of methods and tools to increase the immunity of electrical equipment to the action of electromagnetic fields - Electromagnetic shielding.

Recommended bibliography:

- 1 Nicolaide, A., *Electromagnetics - General theory of the electromagnetic field - Classical and relativistic approaches* (Third edition revised and augmented). [online]. Braşov, Transilvania University Press, Brasov, 2012 (pag. 31-95).
- 2 Helerea, E., Călin, M. D., *Materials in Electrical Engineering*. [online]. Braşov: Editura Universităţii Transilvania din Braşov, 2015 (cap. 1, 5).
- 3 Ogrutan, P., Sandu, P., *Compatibilitate electromagnetică*. [online]. Braşov, Editura Universităţii Transilvania din Braşov, 1999 (cap. 3-5, 8).

Topic 3. Diagnosis of defects and lifetime prognosis for electrical components and equipment.

Recommended bibliography:

Helerea, E., Materiale electrotehnice. Dielectrici, Editura Universității Transilvania din Brașov, Brașov, 1998 (cap. 7).

2. Notingher P., Dumitran L., s.a, *Determination of the remaining lifetime of power transformers liquid insulations based on the absorption/resorption currents*, The 10-th International Symposium on Advanced Topics in Electrical Engineering (ATEE), 2017, pp. 428 – 433.
3. Măriu , L., Helerea, E., „*Multiple stress life analysis on underground power cables from distribution networks*”, Proceedings of Doctoral Conference on Computing, DoCEIS 2012, 2012, pp. 275-283.