МЕСЕЦ НА НАУКАТА 2024

Научноизследователски институт (НИИ)

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Национален център по Мехатроника и чисти технологии

Секция L4_S4 «Енергийно ефективен електрически транспорт»

Ръководител на лаборатория L4S4 доц. д-р инж. Валентин Гюров, кат. ЕСЕО

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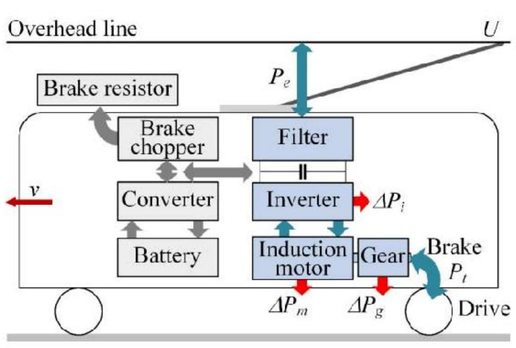
Научни цели и задачи:

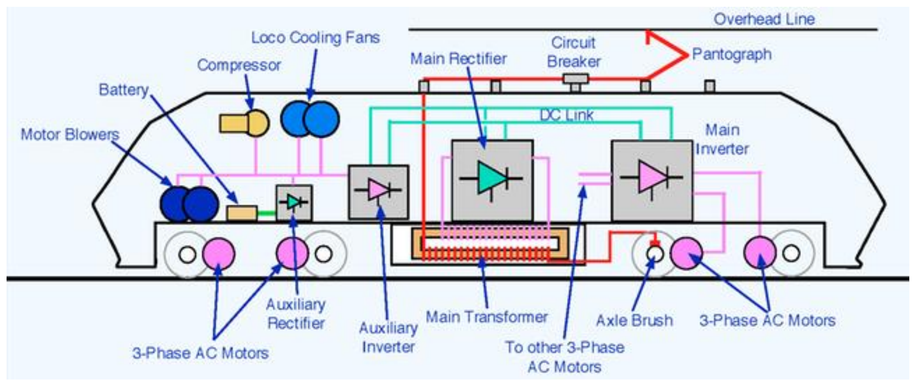
Задача W3.2_4.1. Изследване, моделиране и оптимизация на силови електронни устройства за задвижване и заряд за ул-тралеки електрически автомобили.

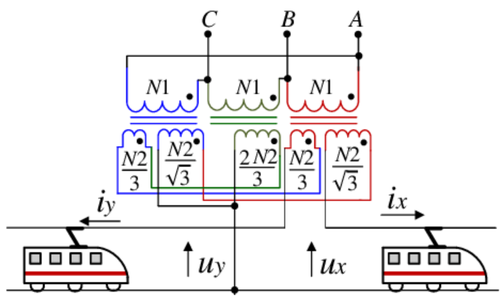
Задача W3.2_4.2. Изследване, моделиране и оптимизация на зарядни станции за електромобили и разработване на нови технически решения за токоизправителни станции на градския електрически транспорт с рекуперативни функции.

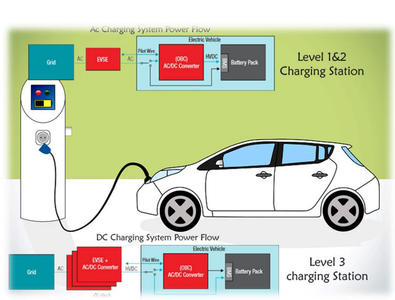
Задача W3.2_4.3. Изследване, моделиране и оптимизация на енергийно ефективни тягови подстанции.

Задача W3.2_4.4. Изследване, моделиране и оптимизация на корабни електроенергийни системи.









Резултати

Реализирана лабораторен комплекс - секция L4S4 “Енергийно ефективен електрически транспорт” в Технически университет – Варна към лаборатория L4 “Транспортен инженеринг и реинженеринг”, Кампус “Студенски град”, Национален център по мехатроника и чисти технологии.

Бюджет по проекта 770 000 лв.

Придобито оборудване (ДМА) по проекта 588 939 лв.

Публикации по проекта

1. Gyurov, V., Bezhanov, N., Possibilities for Energy Planning in Electric Power Supply Systems of Urban Electric Transport, Proceedings of the 11th Electrical Engineering Faculty Conference (BulEF), 2019, pp.1-6, ISBN: 978-1-7281-2698-2, DOI: 10.1109/BulEF48056.2019.9030741 (Scopus).
2. Gyurov, V., Bezhanov, N., Study on Electric Consumption Regimes in Rectifier Stations of Trolleybus Transport, Proceedings of the 11th Electrical Engineering Faculty Conference (BulEF), 2019, pp.1-4, ISBN: 978-1-7281-2698-2, DOI: 10.1109/BulEF48056.2019.9030736 (Scopus).
3. Gyurov, V., Duganov, M., Bezhanov. N, Development of a Physical Model of a Thyristor-Controlled Series Compensator for Medium Voltage Power Supply Systems, Proceedings of the 12th Electrical Engineering Faculty Conference (BulEF), 2020, DOI: 10.1109/BulEF51036.2020.9326038 (Scopus).
4. Gyurov, V., Bezhanov, N., Research on Possibilities for Application of Balancing Transformers for Distribution Systems in Electric Transport, Proceedings of the 12th Electrical Engineering Faculty Conference (BulEF), 2020, DOI: 10.1109/BulEF51036.2020.9326043 (Scopus).
5. Yordanov, Y., Gyurov, V., Experimental Study of Methods for Diagnostics of Electrical Equipment with Belt Drive Mechanisms, Proceedings of the 12th Electrical Engineering Faculty Conference (BulEF), 2020, Varna, pp.1-4, DOI: 10.1109/BulEF51036.2020.9326042 (Scopus).
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7. Chikov, V., Makedonski, N., Milev, G., Cvetanov, B., Possibilities for Determining the Apparent Power Components when Ship Synchronous Generator is Operating, Proceedings of the 17-th International Conference on Electrical Machines, Drives and Power Systems ELMA2021, DOI: 10.1109/ELMA52514.2021.9503077 (Scopus).
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9. Yodanov, Y., Milev, G., Gyurov, V., Duganov, M., Ivanova, G., Simulation of Methods for Diagnosis of the Mechanical Disturbances in the Operation of Ships Synchronous Generators, Proceedings of the 13th Electrical Engineering Faculty Conference (BulEF), 2021, DOI: 10.1109/BulEF53491.2021.9690821 (Scopus).
10. Gyurov, V., Ivanova, G., Increasing the Efficiency of Power Transformers in Marine Power Systems of Cruise Ships, Proceedings of the 13th Electrical Engineering Faculty Conference (BulEF), 2021, DOI: 10.1109/BulEF53491.2021.9690820 (Scopus).
11. Duganov, M., Gyurov, V., Parushev, P., Study on Influence of RL Load on the Operation Conditrions of Capacitor Banks in TCSC, 14th Electrical Engineering Faculty Conference (BulEF), Proceedings, 2022, DOI: 10.1109/BulEF56479.2022.10020205 (Scopus).
12. Gyurov, V., Ivanova, G., Duganov, M., Rachev, S., Comparative Analysis of Reliability Indicators in Conventional and Hybrid SAVe cube Ship Electrical Power Systems, 14th Electrical Engineering Faculty Conference (BulEF), Proceedings, 2022, DOI: 10.1109/BulEF56479.2022.10021201 (Scopus).
13. Ivanova, G., Gyurov, V., Duganov, M., Rachev, S., Simulation Study of Power Consumption Modes of Hybrid SAVe Cube Ship Electrical Power System, 14th Electrical Engineering Faculty Conference (BulEF), Proceedings, 2022, DOI: 10.1109/BulEF56479.2022.10020200 (Scopus).
14. V. Gyurov, V. Chikov, N. Makedonski, Y. Yordanov, Concept for the Use of the Existing Trolleybus Power Supply Networks as Infrastructure for the Electric Vehicle Charging Stations, Proceedings of 11th International Scientific Symposium on Electrical Power Engineering, Stara Lesna, Slovak, pp. 192-195, 2022, ISBN 978-805534104-0 (Scopus, Web of Science).
15. V. Gyurov, P. Parushev, N. Makedonski, M. Duganov, Simulation Study of the Electric Consumption Regimes in Trolleybus Power Supply Networks, Proceedings of 11th International Scientific Symposium on Electrical Power Engineering, Stara Lesna, Slovak, pp. 200-203, 2022, ISBN 978-805534104-0 (Scopus, Web of Science).
16. Gyurov, V., Ivanova, G., Study on Technical Solutions for Shore Power Supply of Motor Yacht, IOP Conf. Series: Materials Science and Engineering, vol. 1216(2022), pp. 1-5, DOI:10.1088/1757-899X/1216/1/012005, 2022.
17. Ivanova, G., Gyurov, V., Assessment of Energy Efficiency of a Motor Yacht Depending on Routes and Sailing Area, IOP Conf. Series: Materials Science and Engineering, vol. 1216(2022), pp. 1-6, DOI:10.1088/1757-899X/1216/1/012004, 2022.

ИНДУСТРИАЛНА СОБСТВЕНОСТ:

Полезен модел

Рег. № 4353 U1 от 15.12.21 г. Стационарна система за мониторинг, диагностика и защита при дефекти във възбудителната система,статора и механични дефекти в ротора на автономни синхронни генератори, Изобретатели: Валентин Гюров, Юлиян Йорданов