Eriksson, Jarl-Thure

Selected scientific papers

A. Electromagnetic Systems

1. J.-T. Eriksson, A. Arkkio, P. Berglund, J. Luomi, M. Savelainen, Liquid Metals and Superconductivity Launch a New Generation of Electric Machines, Proc. of the NATO APS Seminar on Liquid and Amorphous Metals, Zwiesel, 1979, p. 4.

2. P. J. Simola, J.-T. Eriksson, Conditioning of the MHD generator electrical output. Proc. of the 8th Int. Conf. on MHD Electrical Power Generation, Moscow, 1983, pp. 238-243.

3. J.-T. Eriksson, L. Kettunen, A. Pohjavirta, Direct propulsion of blue water vessels. IEEE Trans. on Magnetics, MAG-23, Nr 2, 1987, pp. 2584-2586. **DOI:** 10.1109/TMAG.1987.1065688

4. A. Koski, J.-T. Eriksson, Predicting the performance of a permanent magnet synchronous motor by analytical and numerical methods. IEEE Trans. on Magnetics, MAG-28, Nr 1, 1992, pp. 935-938. **DOI:** 10.1109/20.120032

5. L. Söderlund, J.-T. Eriksson, J. Salonen, H. Vihriälä, R. Perälä, A permanent magnet generator for wind power applications. IEEE Trans. on Magnetics, MAG- 32, Nr 4, 1996, pp. 2389-2392. **DOI:** 10.1109/20.511354

6. T. Vekara, J.-T. Eriksson, J.T. Tanttu, Dynamic model of an electromagnetic massive core brake actuator. IEEE Trans. on Magnetics, MAG 32, Nr 3, 1996, pp. 1970-1974. **DOI:** 10.1109/20.492896

7. L. Söderlund, A. Koski, H. Vihriälä, J.-T. Eriksson, R. Perälä, Design of an axial flux permanent magnet wind power generator. 8th International Conference on Electrical Machines and Drives, 1997, pp. 224-228. **DOI:** 10.1049/cp:19971072

B. Superconductivity, applications

1. A. Arkkio, P. Berglund, J.-T. Eriksson, J. Luomi, M. Savelainen, A 50 kW homopolar motor with superconducting field windings, IEEE Trans. on Magnetics, MAG-17, Nr 1, 1981, pp.900-903. **DOI:** 10.1109/TMAG.1981.1061116

2. J.-T. Eriksson, *Superconducting homopolar machinery: Liquid metal current collection and design principles. Acta Polytechnica Scandinavica, El.Eng. Series Nr 48, 1982, p. 184.* (Main scientific contribution in this field, PhD-thesis.)

3. J.-T. Eriksson, J. Korpijärvi, Economic potential of applying HiTc superconductors to magnetic energy storage. IEEE Trans. on Magnetics, MAG-25, Nr 2, 1989, pp. 1807-1811. **DOI:** 10.1109/20.92653

4. J.-T. Eriksson, R. Mikkonen, Superconducting wiggler magnets. 2nd Nordic Symposium on Superconductivity, Röros 1991. Published in Superconducting Technology; 10 case studies, ed. K. Fossheim. World Scientific Publishing Co. pp. 175-184.

5. J.-T. Eriksson,L. Kettunen, R. Mikkonen, L. Söderlund, A high field superconducting wiggler for MAX-lab at Lund, Sweden. IEEE Transactions on Magnetics, Vol. 21, Nr 1, pp. 589-592. **DOI:** 10.1109/20.119945

6. J.-T. Eriksson, L. Kettunen, R. Mikkonen, L. Söderlund, H. Collan, K. Hjelt, Stability and training of a high field superconducting wiggler. IEEE Trans. on Applied Superconductivity, Vol. 3, Nr 1, 1993, pp. **DOI:** 10.1109/77.233829

7. J.-T. Eriksson, R. Mikkonen, J. Paasi, R. Perälä, L. Söderlund, A HTS synchronous motor at different operating temperatures. Applied Superconductivity Conference, Pittsburgh, 1996. **DOI:** 10.1109/77.614556

Eriksson, Jarl-Thure

C. Superconductivity, theory

1. J. Paasi, J.-T. Eriksson, Intergrain flux creep in high-Tc superconductors. Physical Review B, Vol. 48, Nr 13, 1993. pp. 9873-9876. **DOI:** https://doi.org/10.1103/PhysRevB.48.9873

2. J. Paasi, M. Lahtinen, J.-T. Eriksson, M. Polak, Experimental study of the intergranular magnetization of $(Bi,Pb)_2Sr_2Ca_2Cu_3O_{10+x}$ superconductors Physica C, Vol. 259, Iss 1-2, March 1996, pp. 1-9. **DOI:** https://doi.org/10.1016/0921-4534(96)00041-X

3. J. Paasi, A. Tuohimaa, J.-T. Eriksson, Simulation of the intergranular magnetization of (Bi,Pb)-Sr-Ca-Cu-O superconductors by using Josephson junction arrays. Physica C 259, 1996, pp.10-26. **DOI:** https://doi.org/10.1016/0921-4534(96)00040-8

D. Neural networks, Complexity

1. J. Perttula, T. Tarhasaari, J.-T. Eriksson, Order versus disorder - philosophical implications on computability and modelling of complex systems. Proc. of the 1993 International Symposium on non-linear theory and its applicatoins (NOLTA), Hawaij, 1993, pp. 799-802.

2. Li Lin, J.-T. Eriksson, A neuro-fuzzy controller and learning algorithm for wind turbines. Proc. of ICSPAT, Boston, 1995, pp. 1173-1177.

3. J.-T. Eriksson, Impact of information compression on intellectual activities in the brain. Int. Journal of Neural Systems, Vol. 7, Nr 4, 1996. pp. 543-550. **DOI:** https://doi.org/10.1142/S0129065796000531

4. S. Mäkinen, K. Hartikainen, J.-T. Eriksson, V. Jäntti, Spontaneous and evoked cortical dynamics during deep anaestesia. Int. Journal of Neural Systems, Vol. 7, Nr 4, 1996. pp. 481-487. **DOI:** https://doi.org/10.1142/S0129065796000464

5. Li Lin, J.-T. Eriksson, Non-linear time series prediction using an optimum neural network architecture. Proc. of the Int. Conference on Neural Information Processing, Hong Kong 1996,. pp. 737-741.

6. M. Tenhunen-Eskelinen, J.T. Kuikka, E. Länsimies, J.-T. Eriksson. Fractal analysis of blood flow distribution in human lungs. Med Biol Eng Computing 34: Suppl 1: 257-258, 1996.

7. S. Mäkinen, J.-T. Eriksson, Forecasting the mobile phone penetration in Finland. The 20th Int. Symposium on Forecasting, Lisbon Portugal, June 21-24, 2000.

8. J.-T. Eriksson, Chaos Theory and the Manageability of Complex Systems. Book chapter 7 in How Do We Explore Our Futures? Methods of Futures Research. 1st ed. in English, Finnish Society for Futures Studies. Suomen Uusiokuori Oy, Somero, 2017

E. Cosmology

1. J.-T. Eriksson, A modified model of the universe shows how acceleration changes galaxy dynamics. International Journal of Physics, Vol. 6, No. 2, pp. 38-46, 2018. DOI: 10.12691/ijp-6-2-3. http://pubs.sciepub.com/ijp/6/2/3

2. J.-T. Eriksson, The momentum of new matter replaces dark energy and explains the expansion of the universe. International Journal of Physics, Vol. 6, No 5, pp. 161-165, 2018. doi: 10.12691/ijp-6-5-4. http://pubs.sciepub.com/ijp/6/5/4

Eriksson, Jarl-Thure

3. J.-T. Eriksson, A combined cosmological and gravitational redshift supports electron-positron annihilation as the most likely energy source of the CMB. International Journal of Physics, vol. 7, no. 1, pp. 16-20. DOI: 10.12691/ijp-7-1-3. http://pubs.sciepub.com/ijp/7/1/3