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Master's Thesis

Temperature Dependency of Synchronous Epileptiform Activity in a Hodgkin-Huxley Neural Network

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Abstract

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Keywords:

epilepsy, temperature, Hodgkin-Huxley, simulation, mean-field approximation, synchronization

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Hodgkin-Huxley 型神経細胞ネットワークにおける てんかん様同期活動の温度依存性 *

山村 頼子

内容梗概

てんかん焦点の冷却により，てんかん発作が抑制可能であることは，以前より実験的に知られていた．しかし，その分子的機序や効果ー温度 間の関係には不明な点が多く残されていた．本研究ではまず，Hodgkin-Huxley 型神経細胞ネットワークを用いたシミュレーションによって，冷却による 膜イオンチャネル開閉率の変化のみでもてんかん様同期活動が停止し得ることを示した．次に，この Hodgkin-Huxley 型神経細胞ネットワークにおけるてんかん様活動の温度に対する振る舞いを解明するため，平均場近似による解析を行った．

キーワード

てんかん, 温度, Hodgkin-Huxley, シミュレーション, 平均場近似, 同期

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Discuss the similarity or differences of population IFT curve with seizure frequency data.

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This is the future.

Acknowledgements

Thank you all over the world.

References

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