1056-65-1781 **Charles N. Cook*** (cncook88@gmail.com), 1203 19th St, Port Huron, MI 48060, and **Maria Emelianenko**. *Numerical Study of a Quantum Memory Model.* Preliminary report.

Quantum computers have the potential to be much more powerful than their classical counterparts. However, there are still many obstacles that need to be overcome before quantum computing can become a viable tool, including problems related to storing information in quantum memory. One particular quantum memory model-a lambda-type three-level quantum system-aims to be more manipulable than other current models while also retaining information longer. Since this model can be computationally expensive, this study uses several different methods to simulate this model.

Results from specific cases of the model show that-given enough time-several methods, such as numerical schemes and exact solutions requiring numerical integration, are able to simulate the evolution of the quantum system according to theoretical predictions. An error analysis of each case compares the accuracy between the different approaches.

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