

EASY JAVA SIMULATIONS AND The COMPADRE OSP COLLECTION

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Abstract

Current technologies allow physics educators the ability to combine traditional instruction with computational modeling. However, the implementation of a computational physics based modeling pedagogy requires a considerable programming effort for teachers and students who want to use this approach. This paper describes a pedagogy that limits the amount of programming when designing, implementing, distributing, and using computer models. It is based on the integration of the Easy Java Simulations modeling tool with the ComPADRE National Science Digital Library.

- Easy Java Simulations (EJS) is free open source software that is designed to create interactive simulations in Java (applications and applets) without the necessity of prior programming knowledge.
- ComPADRE is an NSF-sponsored national digital library that is a collaboration of the American Association of Physics Teachers, the American Physical Society, and the American Institute of Physics.

Index Terms— computational physics, modeling, modeling cycle, simulation, e-learning, digital library, Java programming.

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