

Abstract Submitted  
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**Incorporating Project-based Learning Into Your Physics Courses with Open Source Physics** AARON TITUS, High Point University — I loosely define undergraduate research as asking interesting questions and finding answers to those questions. Thus, project-based learning is undergraduate research on a short time scale in the context of a course. Video analysis with Tracker is one of the most economical and flexible experimental techniques to enable students to do independent projects. Computational modeling, using tools such as Easy Java Simulations, allows students to solve problems numerically so they can compare predictions from theoretical models to experimental results. Students' projects will be demonstrated, from introductory to intermediate/advanced levels, with an emphasis on the impact of project-based learning on developing a thriving physics program. If you want to hook students on the excitement of independent discovery, then video analysis and computational modeling are for you.

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