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Integrating Computational Activities into Undergraduate Physics Courses¹

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Integrating computation into undergraduate physics courses, in such a way that the computational approach is emphasized as strongly as non-computational mathematics, adds educational value to the physics curriculum through providing deeper conceptual understanding of physical principles, and enhancing problem-solving skills. In this presentation, I shall provide a few examples of how computational activities can enhance the coverage of topics in undergraduate physics courses, and describe the educational materials development efforts of an informal organization, the Partnership for Integration of Computation into Undergraduate Physics (PICUP), that is committed to building a community of faculty dedicated to integrating computation into the undergraduate physics curriculum.

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