Incorporation of Advanced Laboratory Equipment into Introductory Physics Labs

JOHN GILBERT, MATT BELLIS, JOHN CUMMINGS, Siena College — Siena College recently completed construction of the Stewart’s Advanced Instrumentation and Technology Center (SAInt Center) which includes both a scanning electron microscope (SEM) and an atomic force microscope (AFM). The goal of this project is to design laboratory exercises for introductory physics courses that make use of this equipment. Early involvement with the SAInt center aims to increase undergraduate lab skills and expand research possibilities. These lab exercises are tested on select students and evaluated as to their effectiveness in contributing to the learning goals. The current status of this work is presented here.