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Data Portfolio: Instructional materials provide particle physics data in high school classrooms

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We discuss Data Portfolio (DP), a new suite of activities that provide experimental particle physics data to high school students and a professional development program for their teachers. DP is a website resource with a broad range of instructional materials that allows teachers to select activities of the correct level and scope for their students. Activities range from introductory to survey, investigation and exploration. DP incorporates existing elements such as masterclasses and e-Labs along with new ways of introducing students to physics concepts that underlie the data measurements and investigations. Evaluators have determined that these elements are in line with the latest standards and effective instructional models. To be successful, teachers need to be confident to use the materials, comfortable to step back so students can guide their own learning, and clever to convince administrators that they are meeting school and district requirements. Professional development workshops accompany the DP where participants experience some of these activities as their students would and plan how to use them in their classes. The first weeklong DP workshop is this July at Fermilab. We have also held outreach workshops in conjunction with ILC workshops around the world. DP is a product of QuarkNet, a long-term professional development program embedded in the U.S. particle physics research community and funded by the National Science Foundation and the U.S. Department of Energy and supported by universities and labs across the country.

Summary

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