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Exploiting the Grid for Elementary Particle Physics

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The next generation of experiments in elementary particle physics will require peta-scale cyber-infrastructure: they will generate petabytes of data a year and require petaflops of computing to analyze this data. The required computational resources and the physicists involved will be geographically dispersed (internationally). To maximize the quality and rate of scientific discovery by these physicists, all must have equal ability to access and analyze the experiment's data. As such, particle physicists are actively involved in the development of Grid technology and have been early adopters of the technology. I will describe how particle physicists intend to exploit this important new tool.