Proposal for a High Energy Nuclear Database DAVID BROWN, Lawrence Livermore National Lab, RAMONA VOGT, Lawrence Berkeley National Lab — We propose to develop a high-energy heavy-ion experimental database and make it accessible to the scientific community through an on-line interface. The database will be searchable and cross-indexed with relevant publications, including published detector descriptions. It should eventually contain all published data from the Bevalac, AGS, SPS and FNAL fixed-target programs to the RHIC and LHC colliders; proton-proton, proton-nucleus to nucleus-nucleus collisions as well as other relevant systems; and all measured observables. Such a database would have tremendous scientific payoff as it makes systematic studies easier and allows simpler benchmarking of theoretical models to a broad range of experiments. Furthermore, there is a growing need for compilations of high-energy nuclear data for applications including stockpile stewardship, technology development for inertial confinement fusion and target and source development for upcoming facilities such as the Next Linear Collider. To enhance the utility of the database, we propose periodic data evaluations and topical reviews.

David Brown
Lawrence Livermore National Lab

Date submitted: 20 May 2005   Electronic form version 1.4