Abstract Submitted for the DFD17 Meeting of The American Physical Society

The F-UNCLE Project: Functional UNcertainty Constrained by Law and Experiment ANDREW FRASER, Los Alamos National Laboratory — We are fitting equations of state (EOS) to the mixtures of gasses produced by detonating explosives. Given a set of experimental measurements, we intend our code to provide: 1. An estimate of the EOS; 2. A characterization the residual uncertainty. 3. A description of how each different experiment (both those that have been run and those that are proposed) constrains the estimated EOS. Matrices called the Fisher Information represent the constraints. The presentation will outline the problem and illustrate the resulting constraints.

Andrew Fraser Los Alamos National Laboratory

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