

Abstract Submitted  
for the TS4CF08 Meeting of  
The American Physical Society

**The End of Theory? Does the Data Deluge Make the Scientific Method Obsolete?** VLADIK KREINOVICH, JOHN MCCLURE, JOHN SYMONS, University of Texas at El Paso — Why do we need theory? One of the purposes of science is to predict: e.g., how a complex material behaves in different situations. There are a lot of records describing how different materials behave in different situations. In the past, it was not possible to find a similar record and simply recall what happened then. The only possibility was to extract, from the data, a simple dependence, and then use this dependence for predictions. For example, we can use Ohm's law  $V = I \cdot R$  to predict the voltage  $V$  based on the current  $I$  and the resistance  $R$ . Nowadays, computer searches are so fast that there seems to be no need for any theoretical laws anymore: if we want to predict, we can simply search through all the records and find what happened in a similar situation. So maybe we do not need theory at all. This was the argument developed in a recent (June 2008) article in a popular *Wired* magazine. In our presentation, we will describe this argument in detail, and give our opinion on whether the computer progress will indeed lead to the end of the theory as we know it.

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Date submitted: 22 Sep 2008

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