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Abstract for an Invited Paper
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Bayesian Analysis and Interpretation of Heavy-Ion Collisions[1]

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Heterogenous petascale data sets have been collected at RHIC and at the LHC for heavy-ion collisions. These data are interpreted by commensurately sophisticated multi-component and numerically expensive dynamical models involving numerous unknown parameters. I will show how the model/data comparison is addressed using Bayesian approaches featuring model emulators. In addition to providing a means to rigorously constrain model parameters and make quantitative conclusions concerning the field's most pressing questions, I will show how Bayesian approaches can identify the constraining power of specific classes of observables for determining specific parameters and properties of the novel matter formed in heavy-ion collisions.

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