

My Recent Work

Qian Sitian

2018/7/25

Outline

Parameter Fitting

- Preview

- Parameters to Observables

Parameter Fitting

- ▶ Preview
- ▶ Parameters to Observables
- ▶ Observables to Parameters

Preview

Basic Information:

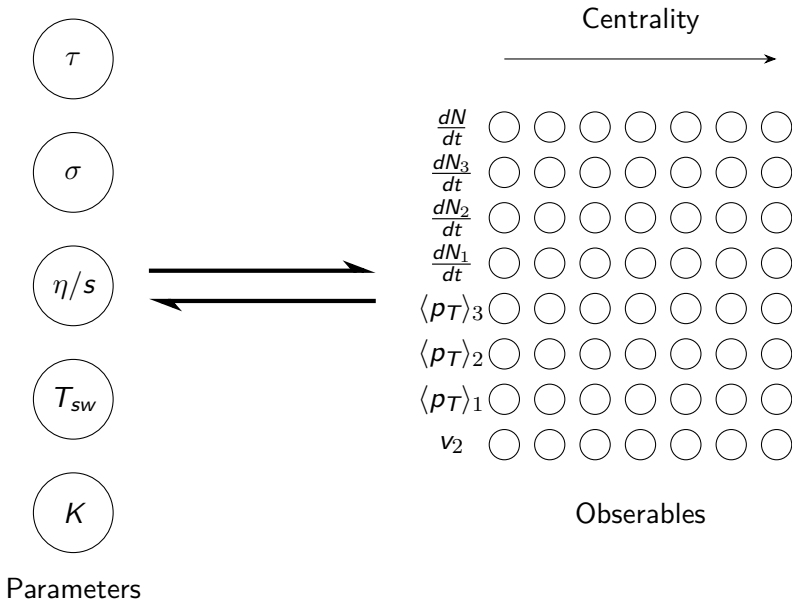
- ▶ Model:

Collective flow in 2.76 A TeV and 5.02 A TeV Pb+Pb collisions
Arxiv:1703.10792

- ▶ Motivation:

Applying Bayesian parameter estimation to relativistic heavy-ion collisions: simultaneous characterization of the initial state and quark-gluon plasma medium
Arxiv:1605.03954

Target



Data

► Initial:

τ	σ	η/s	T_{sw}	K
0.2	0.2	0.02	0.15	0.4
0.6	0.6	0.08	0.24	0.8
0.9	1.0	0.12	0.4	1.2

► Divide:

$$Total : 3^5 = 243 \Rightarrow \begin{cases} Train : 220 \\ Test : 23 \end{cases}$$

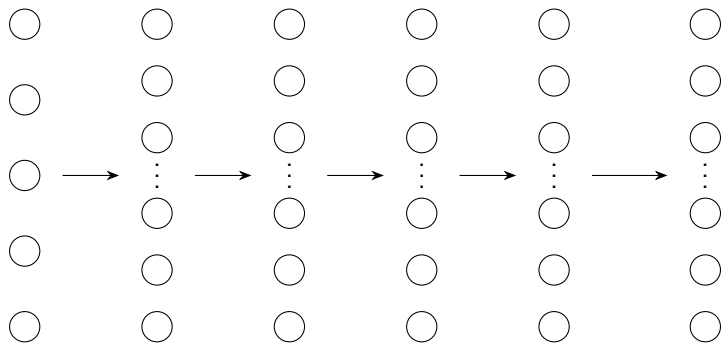
Parameters to Observables

- ▶ Network
- ▶ Result

Network

- ▶ Optimizer:Adam
- ▶ Learning rate:0.0005
- ▶ Loss:The L2 norm of the absolute error between the predictions and the labels
- ▶ Batch size:Randomly choose 44 of 220
- ▶ Layers' type:FC with dropout($p=0.5$)

Network



Parameter 128 units 128 units 128 units 128 units Observables

Result