

STATS531 Participation05


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I've three participation records at Piazza in his period

1. [Any basic structural model application?](#)

followup discussions for lingering questions and comments




☒ Resolved ☐ Unresolved

 **Shu Zhou** 11 days ago
You can refer to this article for an analysis of S&P500 <https://blogs.oracle.com/ai-and-datascience/post/performing-a-time-series-analysis-on-the-samp-500-stock-index>
helpful | 0

 **Chongdan Pan** Just now
Thank you, this blog is very helpful to understand the application of ARMA time series model. However, I doubt the performance of the model in real prediction task, since the price of stock index may be affected by many factors except for previous value. I think we may be able to apply it to data from a stabler system.
helpful | 0

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2. [SIR initialization](#)

 question @115   stop following 16 views


[About initialization]

I am not familiar with SIR model before taking this course. In the code from chapter 12, it writes " $S = \text{round}(N \cdot \eta)$, $I = 1$, $R = \text{round}(N \cdot (1 - \eta))$ " to initialize. Can we try different I (not equal to 1)? If not, why?

Thank you!

[chapter12](#)

[edit](#) good question | 0 Updated 1 day ago by Yang Ye


 the students' answer, where students collectively construct a single answer

According to the dataset, the first non zero report number is 2, I think you can try initialize I with 2.

[edit](#) [thank!](#) | 0 Updated 1 hour ago by Jinhuan Ke

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☒ Resolved ☐ Unresolved




 **Chongdan Pan** 26 minutes ago
The value of I means how many people are infected by the disease in the first place.
I think we can set any value as long as it makes sense based on the time frequency. For example, it can represent for how many patients we have in the first week.
helpful | 0

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3. [Differences between POMP and ARMA](#)


 question @114   stop following 32 views Actions

Differences between POMP and ARMA

As I have been looking over my notes for the past two chapters, I realized that I am struggling to come up with a good mental picture of when we would use POMP vs. ARIMA. Does anyone have a good way of separating the models, or understanding them from a basic level that would help me keep track of them mentally?

[chapter11](#) [chapter12](#)

[edit](#) good question | 1 Updated 4 days ago by Abigail Loe

 the students' answer, where students collectively construct a single answer

Based on chapter 10, I feel like that ARMA and ARIMA models may be just a specific type of POMP's model with specific properties. However, when we're dealing some time series data that cannot be well fitted by ARMA models, we may use construct other transform matrix and POMP model to solve the problem.

[edit](#) [thank!](#) | 0 Updated 21 minutes ago by Chongdan Pan