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**Note:**

The per-capita contact rate between any two individuals.

The per-capita rate of recovery once infectious.

Exposure InfectionRate

**Want:**

SL high transmission, low fatality 🡪 : GUI < SL

GUI low transmission, high fatality 🡪 GUI > SL

**Models:**

1. Simple SIR Model
2. With **only 1 least square** based on Infectious cases
3. With **2 least square** based on Infectious cases and death cases
4. SEIR Model

**Models:**

1. Simple SIR Model
2. With **only 1 least square** based on Infectious cases



0.7916 0.0916



0.9505 0.0257

**Conclusion:** Support

**Remark:** Good at capturing Not good at fitting recovered or death cases

1. With **2 least square** based on Infectious cases and death cases

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1.3618 0.2845

****

1.0309 0.0577

**Conclusion:** Support

**Remark:** Not good at predicting GUI, perhaps we need SEIR

1. SEIR Model



0.0170 -0.5382 -0.5138



1..3240 0.8605 -0.1309

**Conclusion:** Fail to Support

**Remark:** Not good at predicting, Doesn’t make sense to have negative parameters

**Issue:** Initial Condition is crucial!!! But the initial condition here doesn't work well.