SIMIODE Text

Kurt Bryan

February 10, 2024

Kurt Bryan SIMIODE Text

æ

≣ ▶

< ロ > < 同 > < 三 > .

Motivation

Kurt Bryan SIMIODE Text

< ロ > < 部 > < き > < き >

æ

• Use modeling and applications of ODE's right up front, to motivate why the subject is important...

- Use modeling and applications of ODE's right up front, to motivate why the subject is important...
- To illuminate, not to replace the mathematics. Application and modeling provide context and a hook for ODE's, and help students see the effectiveness of ODE's as a tool for describing the world.

- Use modeling and applications of ODE's right up front, to motivate why the subject is important...
- To illuminate, not to replace the mathematics. Application and modeling provide context and a hook for ODE's, and help students see the effectiveness of ODE's as a tool for describing the world.
- Incorporate important allied topics and applications to enrich the presentation, for example, dimensional analysis and scaling, parameter estimation, control theory, and model assessment using data.

Highlights

Kurt Bryan SIMIODE Text

æ

• The text incorporates many SIMIODE modeling projects, and many new ones.

・ 同 ト ・ ヨ ト ・

⊒ > ⊒

- The text incorporates many SIMIODE modeling projects, and many new ones.
- Many projects include data sets.

-∢ ≣ ▶

- The text incorporates many SIMIODE modeling projects, and many new ones.
- Many projects include data sets.
- The text includes inline "Reading Exercises," traditional end-of-section problems, and numerous end-of-chapter modeling projects. There is a complete set of solutions available for all exercises and projects.

- The text incorporates many SIMIODE modeling projects, and many new ones.
- Many projects include data sets.
- The text includes inline "Reading Exercises," traditional end-of-section problems, and numerous end-of-chapter modeling projects. There is a complete set of solutions available for all exercises and projects.
- There is an allied website that contains all data sets and a lot of supporting code in Maple, Mathematica, Matlab, and Sage.

- The text incorporates many SIMIODE modeling projects, and many new ones.
- Many projects include data sets.
- The text includes inline "Reading Exercises," traditional end-of-section problems, and numerous end-of-chapter modeling projects. There is a complete set of solutions available for all exercises and projects.
- There is an allied website that contains all data sets and a lot of supporting code in Maple, Mathematica, Matlab, and Sage.
- There will soon be an online HTML version of the text that will have interactive features.