MITx CSE.0002x
Introduction to Computational Science and Engineering

Help

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5.1.3 Exam: Estimate the IVP solution a short time later

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Exams due Aug 30, 2023 05:00 IST   Completed

At time $t = 3.14$, the solution to an IVP with $M = 3$ states is,

$$u(3.14) = \begin{bmatrix} 0.76 \\ 5.14 \\ 6.98 \end{bmatrix} \qquad (5.2)$$

And the corresponding $f(u, t)$ is,

$$f(u(3.14), 3.14) = \begin{bmatrix} 4.7 \\ -5.8 \\ 9.1 \end{bmatrix} \qquad (5.3)$$

Estimate $u(3.24)$.

Problem: Enter your estimates

3.0/3.0 points (graded)

What is your estimate for $u_0(3.24)$ Enter the first three significant digits (i.e. the answer will be of the form X.YZ):

| 1.23 | ✔ Answer: 1.23

What is your estimate for $u_1(3.24)$ Enter the first three significant digits (i.e. the answer will be of the form X.YZ):

| 4.56 | ✔ Answer: 4.56

What is your estimate for $u_2(3.24)$ Enter the first three significant digits (i.e. the answer will be of the form X.YZ):

| 7.89 | ✔ Answer: 7.89

Submit

ⓘ   Answers are displayed within the problem

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