|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Test data volume** | **NN** | **SINDy** | **Monotonic Min Max** | **Monotonic Lattice** | **GP** |
| **16** | 0.124989211 | - | 0.030309557 | 0.5461 | - |
| **32** | 0.971503674 | - | 0.998151302 | 0.9687 | 0.6285 |
| **64** | 0.997218787 | 0.998026279 | 0.998295247 | 0.9984 | 0.9851 |
| **128** | 0.996931970 | 0.998073505 | 0.998311460 | 0.9984 | 0.9954 |

**1. Input: Tz, Tsa, msa**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Test data volume** | **NN** | **SINDy** | **Monotonic Min Max** | **Monotonic Lattice** | **GP** |
| **16** | 0.9732908010 | - | 0.9978995919 | 0.7644 | - |
| **32** | 0.9981483221 | - | 0.9983240365 | 0.9969 | 0.9975 |
| **64** | 0.9982381463 | 0.9983192496 | 0.9983611702 | 0.9983 | 0.9984 |
| **128** | 0.9984483122 | 0.9978234252 | 0.9984059929 | 0.9980 | 0.9982 |

**2. Input: Tz, Tsa, z**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Test data volume** | **NN** | **SINDy** | **Monotonic Min Max** | **Monotonic Lattice** | **GP** |
| **16** | 0.4820494055 | - | 0.9940865635 | 0.8335 | 0.2636 |
| **32** | 0.9931372404 | - | 0.9982864856 | 0.9972 | 0.9979 |
| **64** | 0.9979695677 | 0.9983192496 | 0.9983416199 | 0.9983 | 0.9984 |
| **128** | 0.9983546733 | 0.9983555673 | 0.9983786940 | 0.9983 | 0.9981 |

**3. Input: Tz, z**

**4. Test running multiple step:**

- Network: Min-max Monotonic

- Data: Training: 512

Testing: 1088

- Optimizer: Adam (lr = 0.01)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Steps** | 1 | 2 | 3 | 4 |
| **R2** | 0.7416 | 0.8914 | 0.8430 | 0.8103 |