

# 数据驱动的动态系统（Dynamical System）建模(一)：深度学习

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[链接 1]

[https://ww2.mathworks.cn/help/releases/R2022a/matlab/ref/ode45.html?searchHighlight=ode45&s\\_tid=doc\\_srchttitle](https://ww2.mathworks.cn/help/releases/R2022a/matlab/ref/ode45.html?searchHighlight=ode45&s_tid=doc_srchttitle)

带有时间依赖的 ODE

MATLAB 脚本：

```
openExample('matlab/ODEWithTimeDependentTermsExample')
```

[链接 2]

[https://ww2.mathworks.cn/help/mbc/mbc\\_gs/point-by-point-modeling-for-diesel.html](https://ww2.mathworks.cn/help/mbc/mbc_gs/point-by-point-modeling-for-diesel.html)

```
openExample('mbc/PointbypointModelingForADieselEngineExample')
```

[链接 3]

脚本

<https://data.mendeley.com/datasets/cp3473x7xv/2>

视频

<https://ww2.mathworks.cn/videos/battery-state-estimation-using-deep-learning-1608051899333.html>

[链接 4]

<https://ww2.mathworks.cn/help/releases/R2022a/deeplearning/ug/sequence-to-sequence-classification-using-1-d-convolutions.html>

```
openExample('nnet/SequenceToSequenceClassificationUsing1DConvExample')
```

[链接 5]

[https://ww2.mathworks.cn/help/releases/R2022a/deeplearning/ug/physical-system-modeling-using-lstm-network.html?searchHighlight=rom&s\\_tid=doc\\_srchttitle](https://ww2.mathworks.cn/help/releases/R2022a/deeplearning/ug/physical-system-modeling-using-lstm-network.html?searchHighlight=rom&s_tid=doc_srchttitle)

```
openExample('deeplearning_shared/TrainALSTMReducedOrderModelForSimscapeComponentExample')
```

[链接 6]

<https://ww2.mathworks.cn/help/releases/R2022a/deeplearning/ug/dynamical-system-modeling-using-neural-ode.html>

```
openExample('nnet/TrainNeuralODENetworkWithRungeKuttaODESolverExample')
```

[链接 7]

[https://ww2.mathworks.cn/help/releases/R2022a/deeplearning/ug/design-time-series-narx-feedback-neural-networks.html?searchHighlight=narx&s\\_tid=doc\\_srchttitle](https://ww2.mathworks.cn/help/releases/R2022a/deeplearning/ug/design-time-series-narx-feedback-neural-networks.html?searchHighlight=narx&s_tid=doc_srchttitle)



[链接 8]

[https://ww2.mathworks.cn/help/deeplearning/deep-learning-with-simulink.html?s\\_tid=CRUX\\_lftnav](https://ww2.mathworks.cn/help/deeplearning/deep-learning-with-simulink.html?s_tid=CRUX_lftnav)

[链接 9]

[https://ww2.mathworks.cn/support/search.html/videos/deep-learning-in-simulink-1599214701480.html?fq\[\]=asset\\_type\\_name:video&fq\[\]=category:simulink/index&page=1](https://ww2.mathworks.cn/support/search.html/videos/deep-learning-in-simulink-1599214701480.html?fq[]=asset_type_name:video&fq[]=category:simulink/index&page=1)

[链接 10]

<https://ww2.mathworks.cn/help/deeplearning/ref/dlarray.dlode45.html>