

light_data_4.1/result1/4.7:

1. **/mix_bias_amp**: 对所有 bias、amp 训练一个统一的网络出来。发送信号是 **bpsk** 分布的随机信号，发送速率为 10M，接收速率 60M。先用一部分数据训练一个网络，并将其保存；然后导出这个网络，再用另一部分数据接着训练。这样的话训练数据量就是之前的多倍。与 4.3 不同的是，这次用的程序是自定义训练的程序。

- 1.1 /Threenonlinear1: 用 4.1/data/amp0.1613、amp0.32106、amp0.48082、amp0.64058、amp0.8003、amp1 的数据来训练，cell 个数为 300，即对每个 amp-bias 组合，都把 300 个 cell 放进训练数据集。

```
Threenonlinear ,
ini learningRate = 1.000000e-02 ,
min batch size = 80000 ,
DropPeriod = 8 , DropFactor = 0.100000 ,
amp = 0.161300, 0.321060, 0.480820, 0.640580, 0.800300, 1.000000,
bias = 0.050000, 0.090000, 0.130000, 0.170000, 0.210000, 0.250000,
      0.290000, 0.330000, 0.370000, 0.410000, 0.450000, 0.490000,
      0.530000, 0.570000, 0.610000, 0.650000, 0.690000, 0.730000, 0.770000, 0.810000, 0.850000,
loop data num = 300 , split num = 10 , loop train num = 2850 , total train loop = 3 ...
validationFrequency is floor(numel(xTrain)/miniBatchSize/2)
origin rate = 1.000000e+07 , receive rate = 6.000000e+07
H order = 48 ,related num = 8
Hidden Units = 60
Add zero num = 24
```

light_data_4.1/result2/4.10:

1. **/trainedNet:** 用 light_data_4.1/result1/4.7/mix_bias_amp 中训练好的网络来测试其他数据的性能。测试数据为不同 bias、不同 amp 的数据，且数据归一化。

- 1.1 /v1.1: 用 light_data_4.1/result1/4.7/mix_bias_amp/Threenonlinear1/net/looptime1/net1 中训练好的网络来测试 4.1/data/amp0.1613 中数据的性能

```
The network used is data_save/light_data_4.1/result1/4.7/mix_bias_amp/Threenonlinear1/net/looptime1/net1
The data used is data_save/light_data_4.1/data/10M/amp0.1613
```

- 1.2 /v1.2: 用 light_data_4.1/result1/4.7/mix_bias_amp/Threenonlinear1/net/looptime1/net1 中训练好的网络来测试 4.1/data/amp0.32106 中数据的性能

```
The network used is data_save/light_data_4.1/result1/4.7/mix_bias_amp/Threenonlinear1/net/looptime1/net1
The data used is data_save/light_data_4.1/data/10M/amp0.32106
```

- 1.3 /v1.3: 用 light_data_4.1/result1/4.7/mix_bias_amp/Threenonlinear1/net/looptime1/net1 中训练好的网络来测试 4.1/data/amp0.48082 中数据的性能

```
The network used is data_save/light_data_4.1/result1/4.7/mix_bias_amp/Threenonlinear1/net/looptime1/net1
The data used is data_save/light_data_4.1/data/10M/amp0.48082
```

- 1.4 /v1.4: 用 light_data_4.1/result1/4.7/mix_bias_amp/Threenonlinear1/net/looptime1/net1 中训练好的网络来测试 4.1/data/amp0.64058 中数据的性能

```
The network used is data_save/light_data_4.1/result1/4.7/mix_bias_amp/Threenonlinear1/net/looptime1/net1
The data used is data_save/light_data_4.1/data/10M/amp0.64058
```

- 1.5 /v1.5: 用 light_data_4.1/result1/4.7/mix_bias_amp/Threenonlinear1/net/looptime1/net1 中训练好的网络来测试 4.1/data/amp0.8003 中数据的性能

```
The network used is data_save/light_data_4.1/result1/4.7/mix_bias_amp/Threenonlinear1/net/looptime1/net1
The data used is data_save/light_data_4.1/data/10M/amp0.8003
```

- 1.6 /v1.6: 用 light_data_4.1/result1/4.7/mix_bias_amp/Threenonlinear1/net/looptime1/net1 中训练好的网络来测试 4.1/data/amp1 中数据的性能

```
The network used is data_save/light_data_4.1/result1/4.7/mix_bias_amp/Threenonlinear1/net/looptime1/net1
The data used is data_save/light_data_4.1/data/10M/amp1
```

- 2.1 /v2.1: 用 light_data_4.1/result1/4.7/mix_bias_amp/Threenonlinear1/net/looptime1/net36 中训练好的网络来测试 4.1/data/amp0.1613 中数据的性能

```
The network used is data_save/light_data_4.1/result1/4.7/mix_bias_amp/Threenonlinear1/net/looptime1/net36
The data used is data_save/light_data_4.1/data/10M/amp0.1613
```

- 2.2 /v2.2: 用 light_data_4.1/result1/4.7/mix_bias_amp/Threenonlinear1/net/looptime1/net36 中训练好的网络来测试 4.1/data/amp0.32106 中数据的性能

```
The network used is data_save/light_data_4.1/result1/4.7/mix_bias_amp/Threenonlinear1/net/looptime1/net36
The data used is data_save/light_data_4.1/data/10M/amp0.32106
```

2.3 /v2.3: 用 [light_data_4.1/result1/4.7/mix_bias_amp/Threenonlinear1/net/looptime1/net36](#)

中训练好的网络来测试 [4.1/data/amp0.48082](#) 中数据的性能

The network used is data_save/light_data_4.1/result1/4.7/mix_bias_amp/Threenonlinear1/net/looptime1/net36
The data used is data_save/light_data_4.1/data/10M/amp0.48082

2.4 /v2.4: 用 [light_data_4.1/result1/4.7/mix_bias_amp/Threenonlinear1/net/looptime1/net36](#)

中训练好的网络来测试 [4.1/data/amp0.64058](#) 中数据的性能

The network used is data_save/light_data_4.1/result1/4.7/mix_bias_amp/Threenonlinear1/net/looptime1/net36
The data used is data_save/light_data_4.1/data/10M/amp0.64058

2.5 /v2.5: 用 [light_data_4.1/result1/4.7/mix_bias_amp/Threenonlinear1/net/looptime1/net36](#)

中训练好的网络来测试 [4.1/data/amp0.8003](#) 中数据的性能

The network used is data_save/light_data_4.1/result1/4.7/mix_bias_amp/Threenonlinear1/net/looptime1/net36
The data used is data_save/light_data_4.1/data/10M/amp0.8003

2.6 /v2.3: 用 [light_data_4.1/result1/4.7/mix_bias_amp/Threenonlinear1/net/looptime1/net36](#)

中训练好的网络来测试 [4.1/data/amp1](#) 中数据的性能

The network used is data_save/light_data_4.1/result1/4.7/mix_bias_amp/Threenonlinear1/net/looptime1/net36
The data used is data_save/light_data_4.1/data/10M/amp1

3.1 /v3.1: 用 [light_data_4.1/result1/4.7/mix_bias_amp/Threenonlinear1/net/looptime2/net1](#)

中训练好的网络来测试 [4.1/data/amp0.1613](#) 中数据的性能

The network used is data_save/light_data_4.1/result1/4.7/mix_bias_amp/Threenonlinear1/net/looptime2/net1
The data used is data_save/light_data_4.1/data/10M/amp0.1613

3.2 /v3.2: 用 [light_data_4.1/result1/4.7/mix_bias_amp/Threenonlinear1/net/looptime2/net1](#)

中训练好的网络来测试 [4.1/data/amp0.32106](#) 中数据的性能

The network used is data_save/light_data_4.1/result1/4.7/mix_bias_amp/Threenonlinear1/net/looptime2/net1
The data used is data_save/light_data_4.1/data/10M/amp0.32106

3.3 /v3.3: 用 [light_data_4.1/result1/4.7/mix_bias_amp/Threenonlinear1/net/looptime2/net1](#)

中训练好的网络来测试 [4.1/data/amp0.48082](#) 中数据的性能

The network used is data_save/light_data_4.1/result1/4.7/mix_bias_amp/Threenonlinear1/net/looptime2/net1
The data used is data_save/light_data_4.1/data/10M/amp0.48082

3.4 /v3.4: 用 [light_data_4.1/result1/4.7/mix_bias_amp/Threenonlinear1/net/looptime2/net1](#)

中训练好的网络来测试 [4.1/data/amp0.64058](#) 中数据的性能

The network used is data_save/light_data_4.1/result1/4.7/mix_bias_amp/Threenonlinear1/net/looptime2/net1
The data used is data_save/light_data_4.1/data/10M/amp0.64058

3.5 /v3.5: 用 [light_data_4.1/result1/4.7/mix_bias_amp/Threenonlinear1/net/looptime2/net1](#)

中训练好的网络来测试 [4.1/data/amp0.8003](#) 中数据的性能

The network used is data_save/light_data_4.1/result1/4.7/mix_bias_amp/Threenonlinear1/net/looptime2/net1
The data used is data_save/light_data_4.1/data/10M/amp0.8003

3.6 /v3.6: 用 [light_data_4.1/result1/4.7/mix_bias_amp/Threenonlinear1/net/looptime2/net1](#)

中训练好的网络来测试 [4.1/data/amp1](#) 中数据的性能

The network used is data_save/light_data_4.1/result1/4.7/mix_bias_amp/Threenonlinear1/net/looptime2/net1
The data used is data_save/light_data_4.1/data/10M/amp1

4.1 /v4.1: 用 [light_data_4.1/result1/4.7/mix_bias_amp/Threenonlinear1/net/looptime2/net36](#) 中训练好的网络来测试 [4.1/data/amp0.1613](#) 中数据的性能

The network used is data_save/light_data_4.1/result1/4.7/mix_bias_amp/Threenonlinear1/net/looptime2/net36
The data used is data_save/light_data_4.1/data/10M/amp0.1613

4.2 /v4.7: 用 [light_data_4.1/result1/4.7/mix_bias_amp/Threenonlinear1/net/looptime2/net36](#) 中训练好的网络来测试 [4.1/data/amp0.32106](#) 中数据的性能

The network used is data_save/light_data_4.1/result1/4.7/mix_bias_amp/Threenonlinear1/net/looptime2/net36
The data used is data_save/light_data_4.1/data/10M/amp0.32106

4.3 /v4.3: 用 [light_data_4.1/result1/4.7/mix_bias_amp/Threenonlinear1/net/looptime2/net36](#) 中训练好的网络来测试 [4.1/data/amp0.48082](#) 中数据的性能

The network used is data_save/light_data_4.1/result1/4.7/mix_bias_amp/Threenonlinear1/net/looptime2/net36
The data used is data_save/light_data_4.1/data/10M/amp0.48082

4.4 /v4.4: 用 [light_data_4.1/result1/4.7/mix_bias_amp/Threenonlinear1/net/looptime2/net36](#) 中训练好的网络来测试 [4.1/data/amp0.64058](#) 中数据的性能

The network used is data_save/light_data_4.1/result1/4.7/mix_bias_amp/Threenonlinear1/net/looptime2/net36
The data used is data_save/light_data_4.1/data/10M/amp0.64058

4.5 /v4.5: 用 [light_data_4.1/result1/4.7/mix_bias_amp/Threenonlinear1/net/looptime2/net36](#) 中训练好的网络来测试 [4.1/data/amp0.8003](#) 中数据的性能

The network used is data_save/light_data_4.1/result1/4.7/mix_bias_amp/Threenonlinear1/net/looptime2/net36
The data used is data_save/light_data_4.1/data/10M/amp0.8003

4.6 /v4.6: 用 [light_data_4.1/result1/4.7/mix_bias_amp/Threenonlinear1/net/looptime2/net36](#) 中训练好的网络来测试 [4.1/data/amp1](#) 中数据的性能

The network used is data_save/light_data_4.1/result1/4.7/mix_bias_amp/Threenonlinear1/net/looptime2/net36
The data used is data_save/light_data_4.1/data/10M/amp1

5.1 /v5.1: 用 [light_data_4.1/result1/4.7/mix_bias_amp/Threenonlinear1/net/looptime3/net1](#) 中训练好的网络来测试 [4.1/data/amp0.1613](#) 中数据的性能

The network used is data_save/light_data_4.1/result1/4.7/mix_bias_amp/Threenonlinear1/net/looptime3/net1
The data used is data_save/light_data_4.1/data/10M/amp0.1613

5.2 /v5.2: 用 [light_data_4.1/result1/4.7/mix_bias_amp/Threenonlinear1/net/looptime3/net1](#) 中训练好的网络来测试 [4.1/data/amp0.32106](#) 中数据的性能

The network used is data_save/light_data_4.1/result1/4.7/mix_bias_amp/Threenonlinear1/net/looptime3/net1
The data used is data_save/light_data_4.1/data/10M/amp0.32106

5.3 /v5.3: 用 [light_data_4.1/result1/4.7/mix_bias_amp/Threenonlinear1/net/looptime3/net1](#) 中训练好的网络来测试 [4.1/data/amp0.48082](#) 中数据的性能

The network used is data_save/light_data_4.1/result1/4.7/mix_bias_amp/Threenonlinear1/net/looptime3/net1
The data used is data_save/light_data_4.1/data/10M/amp0.48082

5.4 /v5.4: 用 [light_data_4.1/result1/4.7/mix_bias_amp/Threenonlinear1/net/looptime3/net1](#) 中训练好的网络来测试 [4.1/data/amp0.64058](#) 中数据的性能

The network used is data_save/light_data_4.1/result1/4.7/mix_bias_amp/Threenonlinear1/net/looptime3/net1
The data used is data_save/light_data_4.1/data/10M/amp0.64058

5.5 /v5.5: 用 [light_data_4.1/result1/4.7/mix_bias_amp/Threenonlinear1/net/looptime3/net1](#) 中训练好的网络来测试 [4.1/data/amp0.8003](#) 中数据的性能

The network used is data_save/light_data_4.1/result1/4.7/mix_bias_amp/Threenonlinear1/net/looptime3/net1
The data used is data_save/light_data_4.1/data/10M/amp0.8003

5.6 /v5.6: 用 [light_data_4.1/result1/4.7/mix_bias_amp/Threenonlinear1/net/looptime3/net1](#) 中训练好的网络来测试 [4.1/data/amp1](#) 中数据的性能

The network used is data_save/light_data_4.1/result1/4.7/mix_bias_amp/Threenonlinear1/net/looptime3/net1
The data used is data_save/light_data_4.1/data/10M/amp1

6.1 /v6.1: 用 [light_data_4.1/result1/4.7/mix_bias_amp/Threenonlinear1/net/looptime3/net36](#) 中训练好的网络来测试 [4.1/data/amp0.1613](#) 中数据的性能

The network used is data_save/light_data_4.1/result1/4.7/mix_bias_amp/Threenonlinear1/net/looptime3/net36
The data used is data_save/light_data_4.1/data/10M/amp0.1613

6.2 /v6.2: 用 [light_data_4.1/result1/4.7/mix_bias_amp/Threenonlinear1/net/looptime3/net36](#) 中训练好的网络来测试 [4.1/data/amp0.32106](#) 中数据的性能

The network used is data_save/light_data_4.1/result1/4.7/mix_bias_amp/Threenonlinear1/net/looptime3/net36
The data used is data_save/light_data_4.1/data/10M/amp0.32106

6.3 /v6.3: 用 [light_data_4.1/result1/4.7/mix_bias_amp/Threenonlinear1/net/looptime3/net36](#) 中训练好的网络来测试 [4.1/data/amp0.48082](#) 中数据的性能

The network used is data_save/light_data_4.1/result1/4.7/mix_bias_amp/Threenonlinear1/net/looptime3/net36
The data used is data_save/light_data_4.1/data/10M/amp0.48082

6.4 /v6.4: 用 [light_data_4.1/result1/4.7/mix_bias_amp/Threenonlinear1/net/looptime3/net36](#) 中训练好的网络来测试 [4.1/data/amp0.64058](#) 中数据的性能

The network used is data_save/light_data_4.1/result1/4.7/mix_bias_amp/Threenonlinear1/net/looptime3/net36
The data used is data_save/light_data_4.1/data/10M/amp0.64058

6.5 /v6.5: 用 [light_data_4.1/result1/4.7/mix_bias_amp/Threenonlinear1/net/looptime3/net36](#) 中训练好的网络来测试 [4.1/data/amp0.8003](#) 中数据的性能

The network used is data_save/light_data_4.1/result1/4.7/mix_bias_amp/Threenonlinear1/net/looptime3/net36
The data used is data_save/light_data_4.1/data/10M/amp0.8003

6.6 /v6.6: 用 [light_data_4.1/result1/4.7/mix_bias_amp/Threenonlinear1/net/looptime3/net36](#) 中训练好的网络来测试 [4.1/data/amp1](#) 中数据的性能

The network used is data_save/light_data_4.1/result1/4.7/mix_bias_amp/Threenonlinear1/net/looptime3/net36
The data used is data_save/light_data_4.1/data/10M/amp1