1. Классический метод

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| № эксп. | cond | A1 | A2 | B1 | B2 | D0 | max err learn | max err test | <err> learn | <err> test |
|  | 1 порядок | | | | | | | | | |
| 1 | 6E+00 | -0.0341 |  | -0.0072 |  | 0.4552 | 0.32 | 0.27 | 0.14 | 0.13 |
| 2 | 1E+01 | -0.0728 |  | -0.0114 |  | 0.3723 | 0.19 | -0.45 | 0.12 | 0.21 |
| 3 | 5E+00 | -0.0341 |  | -0.0041 |  | 0.4630 | 0.32 | 0.28 | 0.14 | 0.13 |
| 4 | 1E+01 | -0.0696 |  | -0.0184 |  | 0.4128 | 0.29 | -0.37 | 0.13 | 0.17 |
| 5 | 2E+01 | -0.0968 |  | -0.0068 |  | 0.3560 | 0.27 | -0.58 | 0.12 | 0.24 |
| 6 | 7E+00 | -0.0305 |  | -0.0084 |  | 0.4775 | 0.21 | 0.32 | 0.10 | 0.19 |
| 7 | 4E+00 | -0.0314 |  | -0.0337 |  | 0.4499 | 0.30 | -0.18 | 0.15 | 0.12 |
| 8 | 2E+01 | -0.0809 |  | -0.0119 |  | 0.3884 | 0.28 | -0.46 | 0.13 | 0.20 |
| 9 | 7E+00 | -0.0343 |  | -0.0370 |  | 0.4795 | 0.31 | 0.25 | 0.12 | 0.18 |
| 10 | 6E+00 | -0.0291 |  | -0.0159 |  | 0.4894 | 0.15 | 0.32 | 0.08 | 0.21 |
| 11 | 9E+00 | -0.0315 |  | -0.0189 |  | 0.4479 | 0.31 | 0.25 | 0.14 | 0.13 |
| 12 | 5E+00 | -0.0382 |  | -0.0121 |  | 0.4724 | 0.32 | 0.27 | 0.14 | 0.12 |
| 13 | 1E+01 | -0.0260 |  | -0.0257 |  | 0.4564 | 0.31 | 0.25 | 0.13 | 0.16 |
| 14 | 6E+00 | -0.0353 |  | -0.0152 |  | 0.4648 | 0.26 | 0.32 | 0.12 | 0.17 |
| 15 | 6E+00 | -0.0262 |  | -0.0115 |  | 0.4434 | 0.31 | 0.19 | 0.15 | 0.12 |
| 16 | 6E+00 | -0.0376 |  | -0.0212 |  | 0.4573 | 0.31 | 0.23 | 0.14 | 0.12 |
|  | 2 порядок | | | | | | | | | |
| 1 | 5E+02 | -0.0366 | -0.0027 | 0.0405 | -0.0096 | 0.4596 | 0,35 | 0.35 | 0.13 | 0.18 |
| 2 | 5E+02 | -0.0486 | -0.0096 | -0.0543 | 0.0238 | 0.3066 | 0.22 | -0.98 | 0.10 | 0.44 |
| 3 | 2E+02 | -0.0296 | -0.0067 | -0.0081 | 0.0005 | 0.4279 | 0.30 | -0.28 | 0.13 | 0.17 |
| 4 | 4E+02 | -0.0687 | 0.0000 | -0.0302 | 0.0030 | 0.4148 | 0.28 | -0.37 | 0.13 | 0.17 |
| 5 | 1E+03 | -0.1348 | 0.0036 | 0.0411 | -0.0102 | 0.2746 | 0.28 | -0.95 | 0.11 | 0.41 |
| 6 | 2E+02 | -0.0291 | -0.0050 | -0.0050 | -0.0056 | 0.4609 | 0.17 | 0.32 | 0.08 | 0.22 |
| 7 | 7E+01 | -0.0432 | -0.0080 | -0.0300 | -0.0032 | 0.4377 | 0.29 | -0.46 | 0.14 | 0.18 |
| 8 | 8E+02 | -0.0873 | 0.0006 | -0.0002 | -0.0024 | 0.3726 | 0.29 | -0.53 | 0.13 | 0.22 |
| 9 | 3E+02 | -0.0375 | -0.0090 | 0.0098 | -0.0113 | 0.4122 | 0.32 | -0.57 | 0.11 | 0.26 |
| 10 | 2E+02 | -0.0297 | -0.0028 | -0.0101 | 0.0005 | 0.4822 | 0.14 | 0.32 | 0.08 | 0.21 |
| 11 | 5E+02 | -0.0376 | -0.0091 | 0.0014 | -0.0119 | 0.3978 | 0.31 | -0.66 | 0.11 | 0.28 |
| 12 | 2E+02 | -0.0303 | -0.0067 | -0.0196 | -0.0086 | 0.4290 | 0.31 | -0.58 | 0.13 | 0.23 |
| 13 | 6E+02 | -0.0293 | -0.0107 | -0.0887 | 0.0004 | 0.3719 | 0.24 | -0.91 | 0.10 | 0.39 |
| 14 | 2E+02 | -0.0388 | -0.0026 | -0.0198 | 0.0013 | 0.4694 | 0.25 | 0.31 | 0.11 | 0.17 |
| 15 | 2E+02 | -0.0316 | -0.0016 | -0.0273 | 0.0037 | 0.4556 | 0.30 | 0.22 | 0.14 | 0.11 |
| 16 | 2E+02 | -0.0456 | -0.0033 | -0.0538 | 0.0074 | 0.4527 | 0.28 | 0.25 | 0.13 | 0.15 |

1. Нейросетевой метод

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| № эксп. | max err learn | max err test | <err> learn | <err> test |
| 1 | -0.11 | -0.10 | 0.05 | 0.06 |
| 2 | 0.04 | 0.07 | 0.02 | 0.04 |
| 3 | 0.05 | 0.15 | 0.02 | 0.09 |
| 4 | -0.06 | 0.21 | 0.02 | 0.10 |
| 5 | 0.03 | -0.13 | 0.01 | 0.07 |
| 6 | 0.04 | 0.43 | 0.02 | 0.24 |
| 7 | 0.07 | -0.18 | 0.02 | 0.12 |
| 8 | 0.15 | -0.23 | 0.05 | 0.09 |
| 9 | 0.05 | 0.11 | 0.02 | 0.07 |
| 10 | 0.04 | 0.23 | 0.02 | 0.12 |
| 11 | 0.10 | -0.17 | 0.05 | 0.13 |
| 12 | 0.03 | 0.10 | 0.02 | 0.05 |
| 13 | 0.05 | 0.16 | 0.02 | 0.08 |
| 14 | 0.03 | 0.15 | 0.01 | 0.08 |
| 15 | -0.05 | -0.13 | 0.02 | 0.09 |
| 16 | -0.05 | 0.21 | 0.02 | 0.10 |

1. Многослойный метод

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| № эксп. | A0 | A1 | R0 | max err learn | max err test | <err> learn | <err> test |
| 1 | -0.0341 | -0.0072 | 0.4552 | 0.32 | 0.27 | 0.14 | 0.13 |
| 2 | -0.0728 | -0.0114 | 0.3723 | 0.19 | -0.45 | 0.12 | 0.21 |
| 3 | -0.0341 | -0.0041 | 0.4630 | 0.32 | 0.28 | 0.14 | 0.13 |
| 4 | -0.0696 | -0.0184 | 0.4128 | 0.29 | -0.37 | 0.13 | 0.17 |
| 5 | -0.0968 | -0.0068 | 0.3560 | 0.27 | -0.58 | 0.12 | 0.24 |
| 6 | -0.0305 | -0.0084 | 0.4775 | 0.21 | 0.32 | 0.10 | 0.19 |
| 7 | -0.0314 | -0.0337 | 0.4499 | 0.30 | -0.18 | 0.15 | 0.12 |
| 8 | -0.0809 | -0.0119 | 0.3884 | 0.28 | -0.46 | 0.13 | 0.20 |
| 9 | -0.0343 | -0.0370 | 0.4795 | 0.31 | 0.25 | 0.12 | 0.18 |
| 10 | -0.0291 | -0.0159 | 0.4894 | 0.15 | 0.32 | 0.08 | 0.21 |
| 11 | -0.0315 | -0.0189 | 0.4479 | 0.31 | 0.25 | 0.14 | 0.13 |
| 12 | -0.0382 | -0.0121 | 0.4724 | 0.32 | 0.27 | 0.14 | 0.12 |
| 13 | -0.0260 | -0.0257 | 0.4564 | 0.31 | 0.25 | 0.13 | 0.16 |
| 14 | -0.0353 | -0.0152 | 0.4648 | 0.26 | 0.32 | 0.12 | 0.17 |
| 15 | -0.0262 | -0.0115 | 0.4434 | 0.31 | 0.19 | 0.15 | 0.12 |
| 16 | -0.0376 | -0.0212 | 0.4573 | 0.31 | 0.23 | 0.14 | 0.12 |