|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| learning rate | momentum = 0.99 | momentum = 0.95 | momentum = 0.90 | momentum = 0.85 |
| 1e3 | -- | tr – 0.4537, 0.8829  vl - 1.9988, 0.1987 | -- | -- |
| 5e4 | -- | tr – 0.0285, 1.0000  vl - 3.0788, 0.1656 | tr – 0.0219, 1.0000  vl - 1.8518, 0.3444 | tr – 0.0.48, 1.0000  vl - 3.7571, 0.3311 |
| 1e4 | tr – 0.0089, 1.0000  vl - 2.4035, 0.2517 | tr – 0.0237, 1.0000  vl - 1.5368, **0.4570** | tr – 0.0389, 1.0000  vl - 1.6073, **0.4305** | tr – 0.0783, 1.0000  vl - 1.6769, **0.3444** |
| 5e5 | tr – 0.0127, 1.0000  vl - 2.1544, 0.3245 | tr – 0.0396, 1.0000  vl - 1.5019, 0.2980 | tr – 0.1018, 1.0000  vl - 1.8712, 0.3907 | tr – 0.2048, 0.9986  vl - 1.8787, 0.3179 |
| 1e5 | tr – 0.0297, 1.0000  vl - 1.8734, **0.3709** | tr – 0.2991, 0.9856  vl - 2.0509, 0.1722 | tr – 0.6572, 0.9494  vl - 2.2521, 0.2252 | -- |
| 5e6 | tr – 0.0487, 1.0000  vl - 1.9301, 0.2781 | -- | -- | -- |
| 1e6 | tr – 0.4203, 0.9942  vl - 2.2344, 0.1987 | -- | -- | -- |
| 5e7 | tr – 0.7910, 0.9408  vl - 2.4852, 0.1987 | -- | -- | -- |
| 1e7 | tr – 1.7969, 0.5381  vl - 2.3751, 0.0993 | -- | -- | -- |