Simulasi SP Konstan Learning Rate Konstan

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No. | Learning rate | Overshoot (mm) | % overshoot | Settling time (detik) | MSE |
| 1 | 0.001 | 127.146 | 27.146 | - | 418.6203 |
| 2 | 0.01 | 125.369 | 25.369 | 1182.73 | 284.051 |
| 3 | 0.1 | 119.713 | 19.713 | 1171.63 | 225.1403 |
| 4 | 1 | 115.926 | 15.926 | 262.484 | 205.719 |
| 5 | 2 | 114.858 | 14.858 | 215.134 | 199.6002 |
| 6 | 5 | 113.181 | 13.181 | 174.074 | 195.106 |
| 7 | 10 | 112.025 | 12.025 | 161.709 | 195.3809 |

Simulasi SP Konstan dan Adaptasi Learning Rate

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No. | Alpha | Overshoot (mm) | % Overshoot | Settling time (detik) | MSE |
| 1 | 0.0001 | 118.202 | 18.202 | 279.577 | 213.867 |
| 2 | 0.001 | 114.57 | 14.57 | 179.474 | 197.0926 |
| 3 | 0.01 | 106.187 | 6.187 | 129.898 | 192.8207 |
| 4 | 0.1 | 103.799 | 3.799 | 111.515 | 190.3915 |
| 5 | 1 | 102.389 | 2.389 | 111.415 | 167.3385 |

Implementasi SP Konstan dan Adaptasi Learning Rate

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No. | Alpha | Overshoot (mm) | % Overshoot | Settling time (detik) | MSE |
| 1 | 0.0001 | 123.229 | 23.229 | 217.298 | 366.1553 |
| 2 | 0.001 | 107.104 | 7.104 | 232.902 | 401.0214 |
| 3 | 0.01 | 105.522 | 5.22 | 194.019 | 402.2102 |
| 4 | 0.1 | 103.426 | 3.426 | 127.213 | 377.8364 |
| 5 | 1 | 106.029 | 6.029 | 194.676 | 434.804 |

Simulasi Tracking SP dan Adaptasi Learning Rate

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| No. | Alpha | Step Pertama SP=50mm | | | Step Kedua SP=100mm | |
| Overshoot (mm) | % Overshoot | (detik) | Overshoot  (mm) | % Overshoot |
| 1 | 0.0001 | - | - | - | 110.864 | 10.864 |
| 2 | 0.001 | 60.7622 | 21.5244 | 202.74 | 104.026 | 4.026 |
| 3 | 0.01 | 57.5965 | 15.193 | 82.0345 | 101.543 | 1.543 |
| 4 | 0.1 | 54.382 | 8.764 | 58.5694 | 100.932 | 0.932 |
| 5 | 1 | 52.6073 | 5.2146 | 52.909 | 100.261 | 0.261 |

Implementasi Tracking SP dan Adaptasi Learning Rate

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| No. | Alpha | Step Pertama SP=50mm | | | Step Kedua SP=100mm | |
| Overshoot  (mm) | % Overshoot | (detik) | Overshoot (mm) | % Overshoot |
| 1 | 0.0001 | 75.6782 | 51.36 | - | 106.195 | 6.19 |
| 2 | 0.001 | 70.4976 | 41 | 235.998 | 103.816 | 3.816 |
| 3 | 0.01 | 69.3855 | 38.77 | 179.806 | 102.688 | 2.688 |
| 4 | 0.1 | 68.5515 | 37.1 | 151.632 | 102.052 | 2.052 |
| 5 | 1 | 68.3644 | 36.73 | 146.705 | 103.527 | 3.527 |