|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Cr3+ concentration(wt.%) | Crystallinity (%) | Crystallite size, D (nm) | Micro strain, ε (10-4) | Dislocation density, δ (nm-2) (10-4) |
| Scherrer formula | W-H plot |
| 0.0 | 57.71 | 40.02 | 74.15 | 5.684 ± 4.658 | 1.818 |
| 0.2 | 61.16 | 41.92 | 72.59 | 3.925 ± 8.119 | 1.897 |
| 0.4 | 64.12 | 39.99 | 65.40 | 2.212 ± 4.950 | 2.337 |
| 0.6 | 65.14 | 38.58 | 69.68 | 5.329 ± 5.947 | 2.059 |
| 0.8 | 69.75 | 40.97 | 87.20 | 8.421 ± 8.679 | 1.315 |
| 1.0 | 71.23 | 40.61 | 82.04 | 7.407 ± 9.078 | 1.485 |
| 1.2 | 70.93 | 40.79 | 87.76 | 6.454 ± 2.870 | 1.298 |