Table 5 Average lattice strains and hydrostatic stresses along major crystallographic directions

(*a*-axis) of the ODS FeNiCrY2O3 specimens

|  |  |  |
| --- | --- | --- |
| **Specimen Code** | **Average Lattice Strain,  (%)** | **Hydrostatic Stress,**** (GPa)** |
| ***a*// FeNiCr****(Austenite Matrice)** | ***a*// Y2O3****(Cubic Yttria)** | **ODS FeNiCrY2O3****(*a*// resultant)** |
| FeNiCr | 0 | 0 | 0 | 0 |
| FeNiCr-03Y2O3 | -0.198185045 | -0.010309661 | -0.208494706 | -98.80982917 |
| FeNiCr-05Y2O3 | -0.070260652 | -0.004074148 | -0.0743348 | -35.19377829 |
| FeNiCr-07Y2O3 | 0.040323145 | -0.0517412 | -0.011418055 | -0.918724427 |
| FeNiCr-10Y2O3 | -0.010280686 | -0.025289407 | -0.035570093 | -14.79176123 |
| FeNiCr-15Y2O3 | 0.317064344 | -0.077002772 | 0.240061572 | 121.5717199 |
| FeNiCr-20Y2O3 | 1.996963909 | -0.199434461 | 1.797529447 | 877.1952868 |