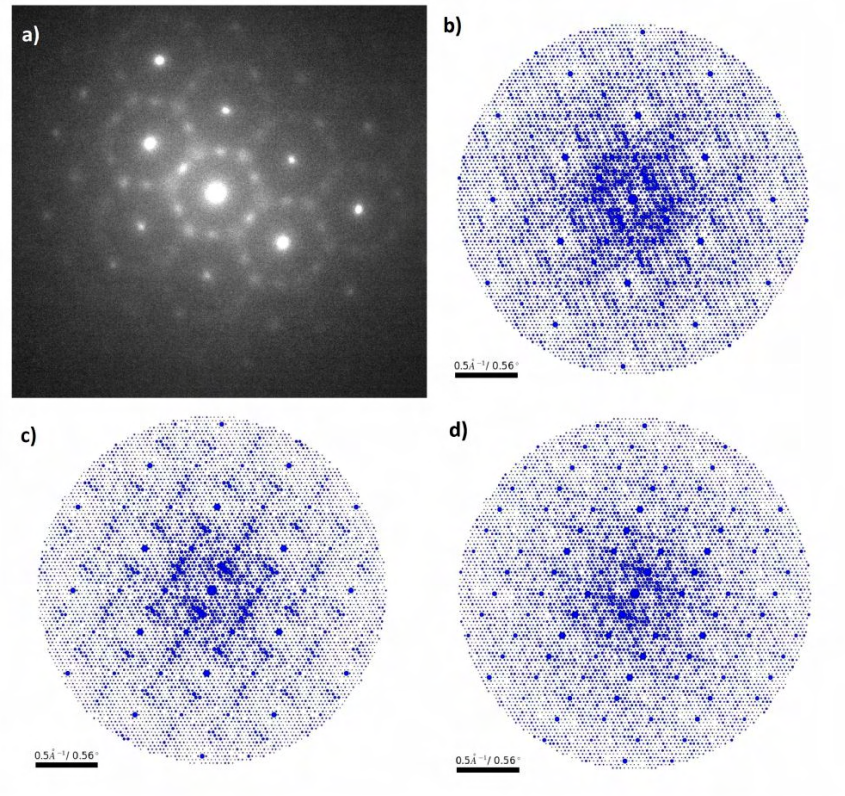

Figure 1: Comparison of **a)** Experimental [101] zone axis TEM diffraction pattern of β-Ga_2O_3 after 2 dpa irradiation by 400 eV Ar ions, with theoretical patterns produced by model for 2 dpa fast ion irradiation along **b)** [101], **c)** $[\bar{2}01]$ and **d)** $[\bar{3}\bar{1}0]$ zone axes.

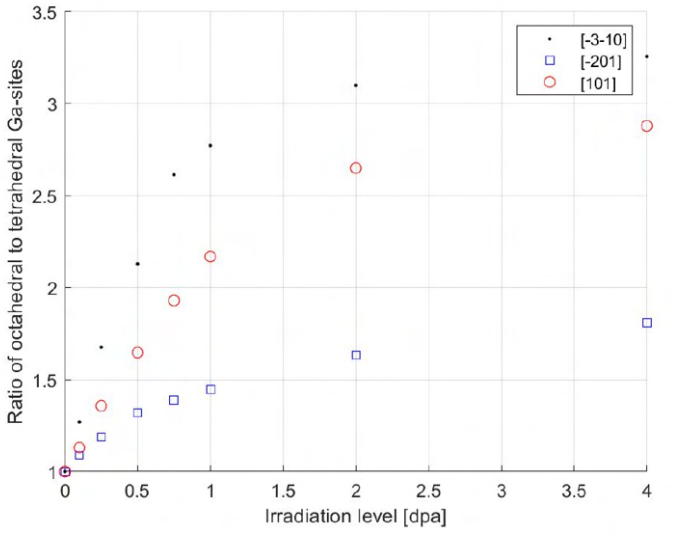

Figure 2: Predicted evolution of the ratio between octahedrally and tetrahe drally occupied Ga-sites in β-Ga_2O_3 as a result of irradiation level for three mair zone axes orthogonal to near close-packed O-atom layers.

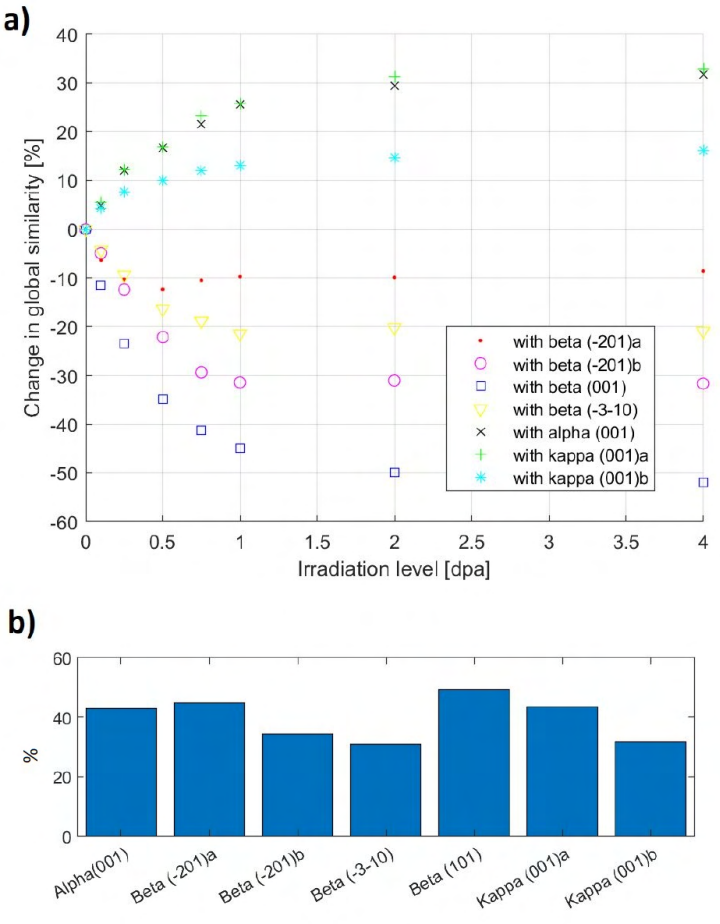

Figure 3: **a)** Evolution of the change in similarities between the Ga-atom sublattice layer parallel to (101) and other layers confined between near close-packed O-atom layers as a function of irradiation. While the highest increase in similarity of the irradiated (101) plane is with the κ-Ga_2O_3 (001) configuration, **b)** - a bar chart of the percentage of similarities after 2 dpa irradiation, shows that the irradiated Ga-atom sublattice's similarity to the unirradiated (101) configuration remains the highest.