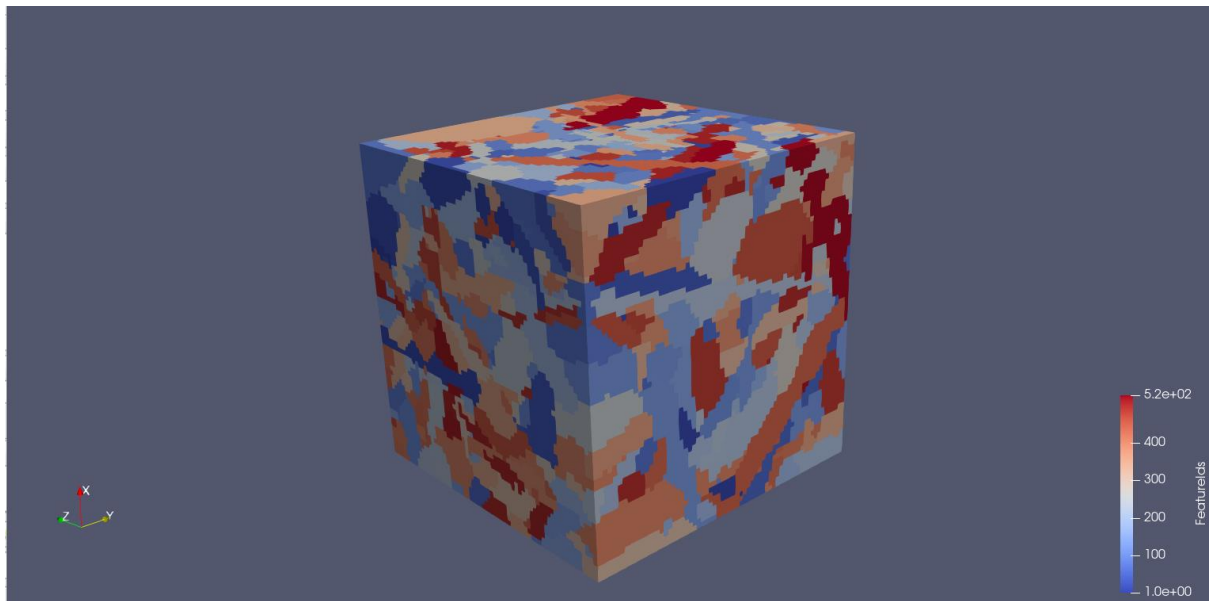


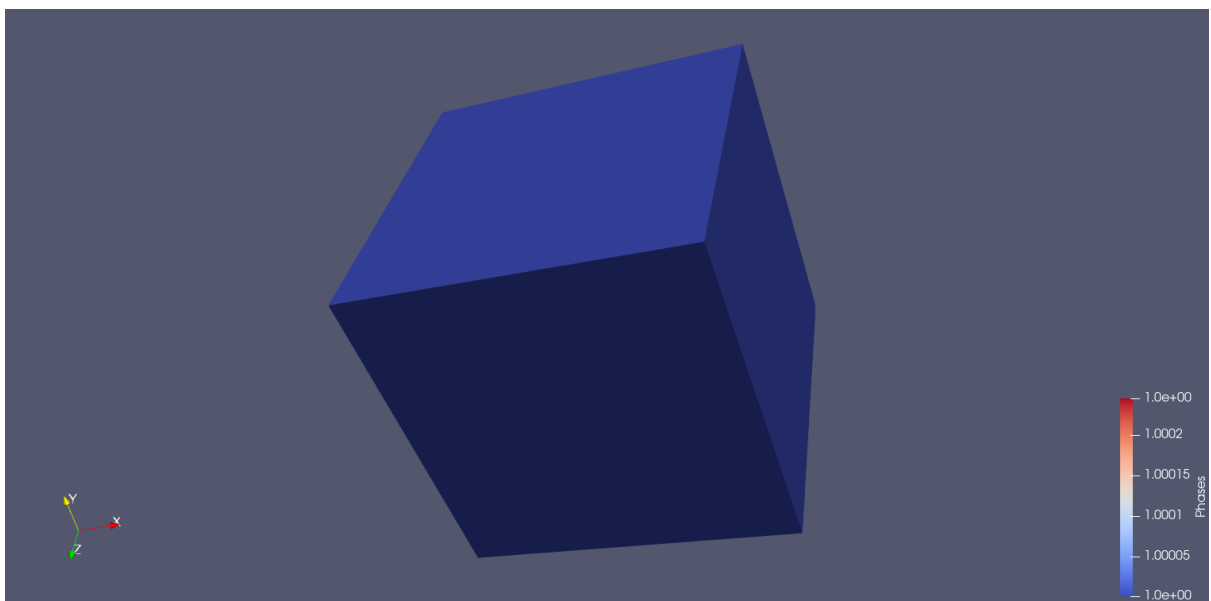
# Generation of 3-D digital microstructures

By Sayantan Mondal

Microstructure generated using DREAM 3D, having single phase, elongated grains, random texture.(Rolling axis parameter  $A=1.0, B=0.1, C=0.01$ );

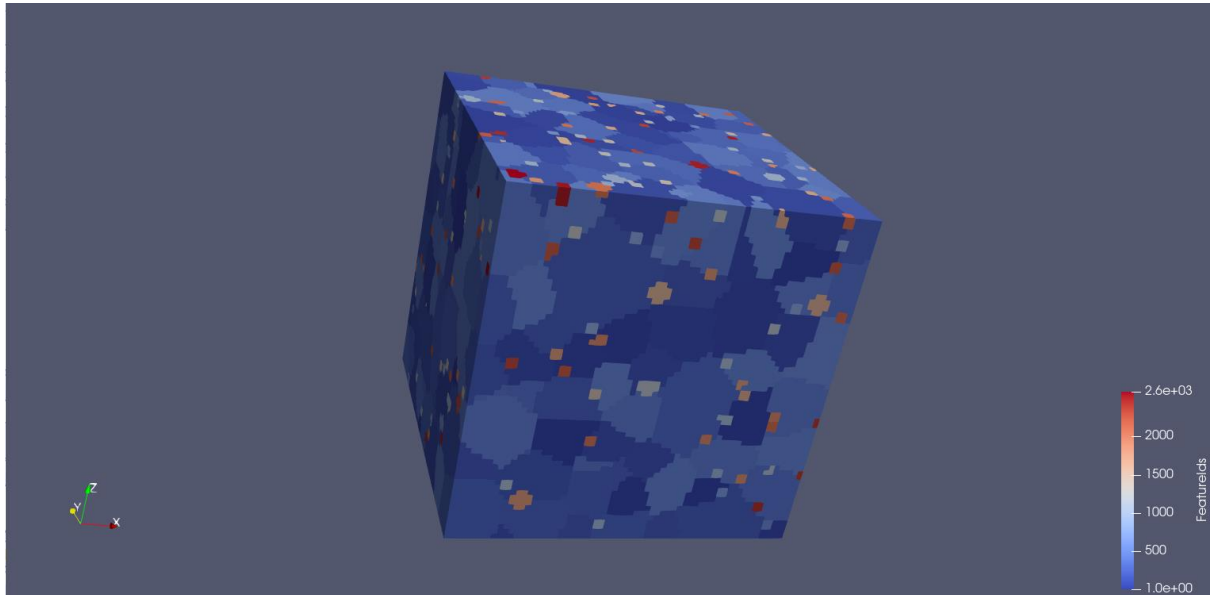


**Fig.** single phase microstructure with random texture and elongated grains

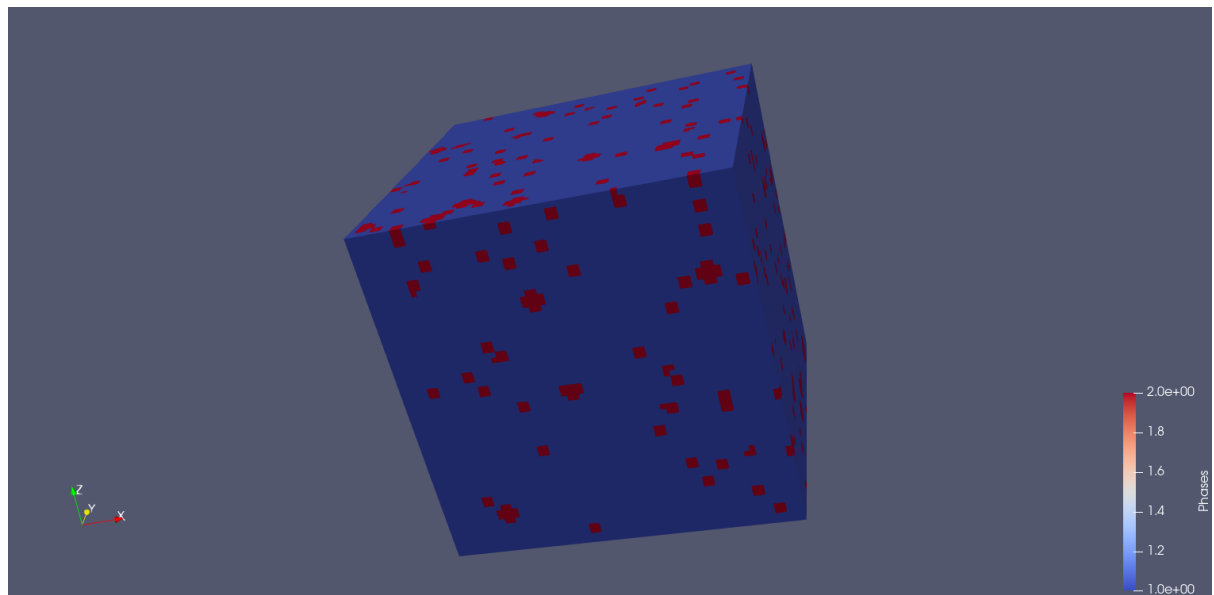


**Fig.** Verification for single Phase

Microstructure generated using DREAM 3D, having equi axed grains, random texture with one primary phase and a precipitate of volume fraction 10%, at the grain boundary.



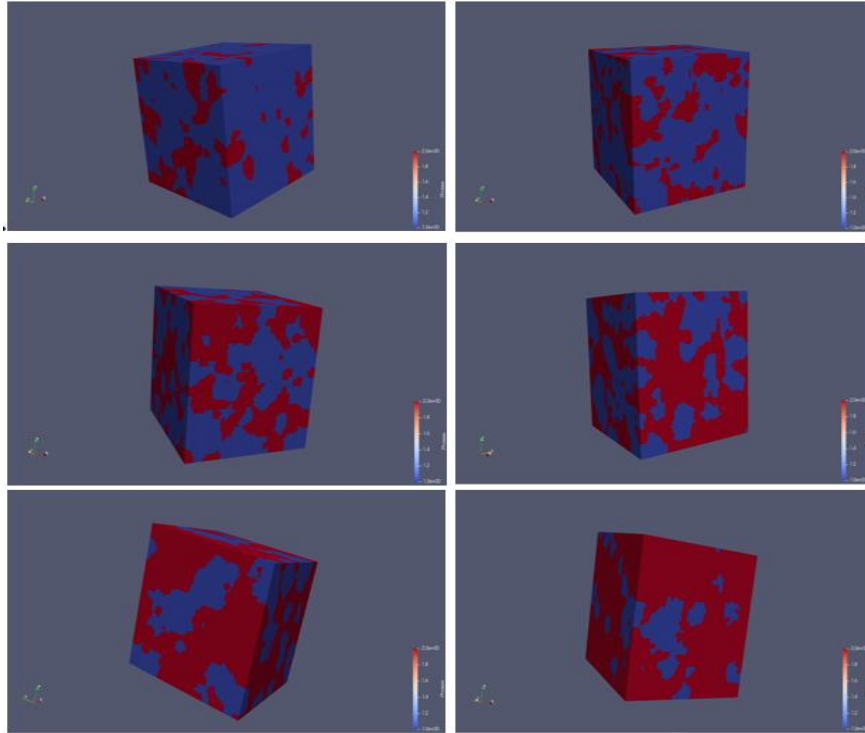
**Fig.** 10 % Precipitation of second phase at the grain boundary



**Fig.** Verification of Precipitate at grain boundary through phase mapping.

Generation of 2 phase microstructure, with varying amount of 2nd phase.

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**Fig:**10%,20%,30%,40%,50%,60% of second phase(red color)