5. Shear Stress vs Shear Strain for the first cycle of each experiment using the best linear fit

MATLAB has been used to obtain the best linear fit for the given data. MATLAB finds the best linear fit by using the least square method. The slope of the best linear fit line gives the best estimate of Shear Modulus of Aluminium 6061 corresponding to the data reading of that cycle.¹

Observations Recorded:

Best Estimate of Shear Modulus of Aluminium 6061			
Experiment Number	Cycle	Slope (in Pa/rad)	G (in
			GPa)
1 (Group 1)	1	15405632012.205857	15.4056
2 (Group 2)	1	18980810078.480890	18.9808
3 (Group 3)	1	20547119551.370123	20.5471
4 (Group 4)	1	16281510793.680640	16.2815
5 (Group 5)	1	13602448487.800990	13.6024

¹The code used to arrive to these results is attached in the Archives