

Instructions to determine the optimum number and location of points on the profile for the new FDM:

1. Copy the '*...\Optimisation for the profiles of the new FDM*', '*...\Optimisation of number and locations of points on profiles\Profile Data_FDM_phase_1*' and '*...\Optimisation of number and locations of points on profiles\INITIAL INPUT*' folders to '*...\MATLAB 7\work*'.
2. Run *simplified_sampling_FDM_validation_phase_1.m*
3. The result is stored in '*...\INITIAL INPUT*'.

NOTE:

Data of files in '*...\Optimisation of number and locations of points on profiles\Profile Data_FDM_phase_1\Joint length*' are arranged as the follows:

ROW 1	Data for key posture 1 (a fully extended arm)	Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7
		Upper arm vector			Lower arm vector			Distance of shoulder joint to the elbow joint
		X (is always zero because the profile is located on Y-Z plane)	Y	Z	X (is always zero because the profile is located on Y-Z plane)	Y	Z	
		Column 8	Column 9	Column 10	Column 11	Column 12	Column 13	
		Distance of UAF location to the elbow joint	Distance of UAM location to the elbow joint	Distance of E location to the elbow joint	Distance of LAM location to the elbow joint	Distance of LAF location to the elbow joint	Distance of wrist joint to the elbow joint	
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ROW 4	Data for key posture 1 (a fully flexed arm)	Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7
		Upper arm vector			Lower arm vector			Distance of shoulder joint to the elbow joint
		X (is always zero because the profile is located on Y-Z plane)	Y	Z	X (is always zero because the profile is located on Y-Z plane)	Y	Z	
		Column 8	Column 9	Column 10	Column 11	Column 12	Column 13	
		Distance of UAF location to the elbow joint	Distance of UAM location to the elbow joint	Distance of E location to the elbow joint	Distance of LAM location to the elbow joint	Distance of LAF location to the elbow joint	Distance of wrist joint to the elbow joint	

Data of files in '*...\Optimisation of number and locations of points on profiles\Profile Data_FDM_phase_1\Profile points*' are obtained by tracing and sampled the points on the profiles of the side view photographs in Pro-Engineer. The tracing and sampling of the side view photographs are performed for each key posture and the results are then saved as '*.vda*' files.