Surface Strain During Skin Indentation

Goal: Determine the skin surface strain and strain rate during surgical tool testing.
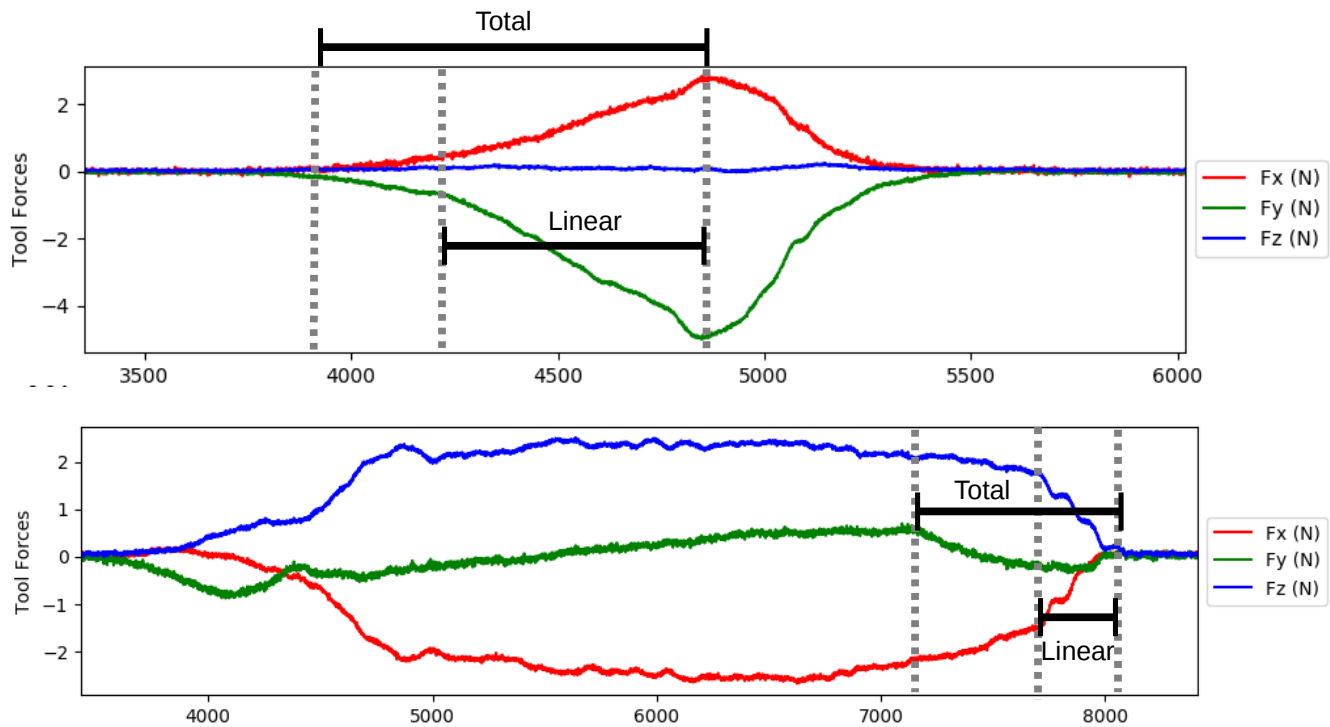
Methods:
Examined two tests – Indentation and pinch test (pulling action portion)
Max surface strain – Taken from Vic3D 1st Principal Strain (@ max indentation by visual inspection)
Strain Rate – Time for indentation extracted from force data summary plots. Total region as well as linear region of applied strain was considered. Strain rate = Max Strain/time.
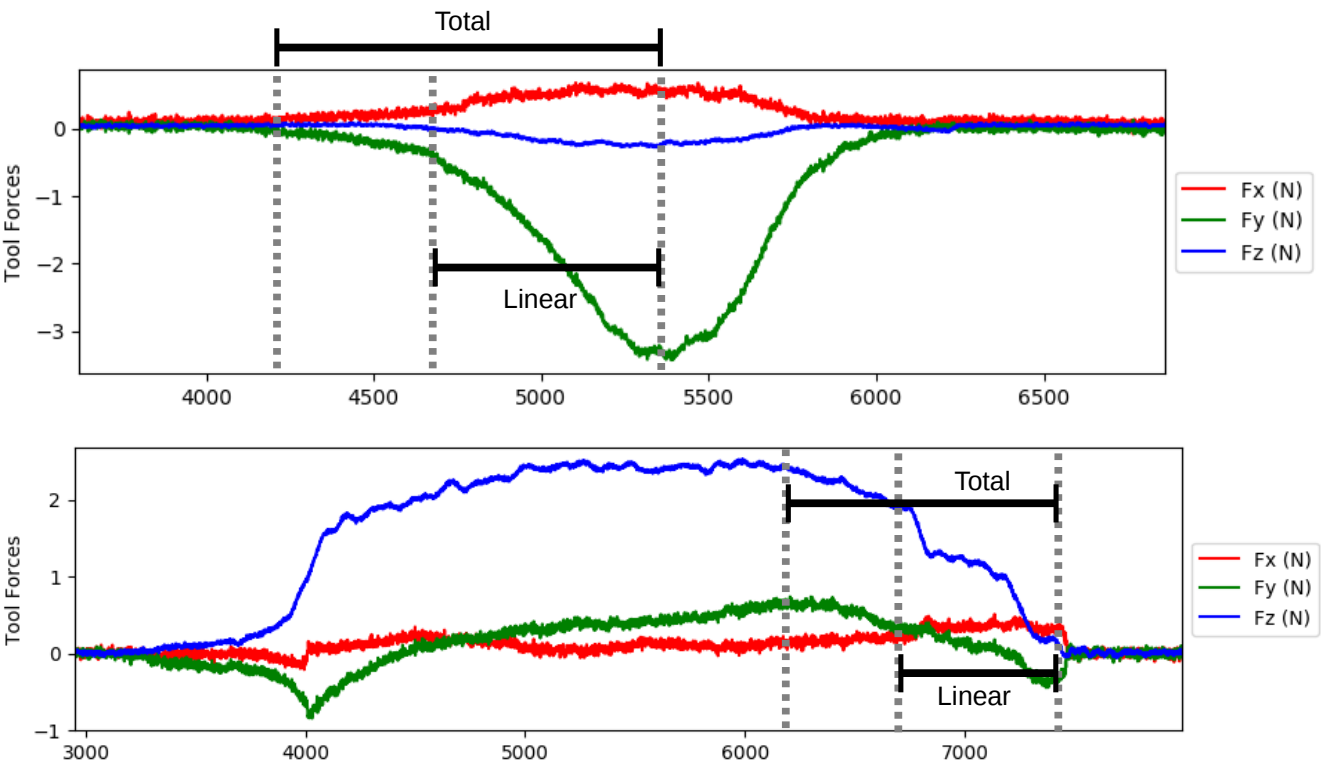
Results:

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	Strain	Time	Strain rate	Linear time	Linear strain rate
Indentation	11.7 %	0.973 sec	12.0 %/sec	0.558 sec	21.0 %/sec
Pinch - Pulling	10.7%	0.897 sec	11.9 %/sec	0.403 sec	26.5 %/sec

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	Strain	Time	Strain rate	Linear time	Linear strain rate
Indentation	13.3 %	1.094 sec	12.2 %/sec	0.641 sec	20.7 %/sec
Pinch - Pulling	9.4%	1.216 sec	7.7 %/sec	0.743 sec	12.7 %/sec