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Author: wruslandr@gmail.com

Report CNC Parametric Curve Interpolation and Trajectory Tracking
Part 3 of 5 Circle and Astepti (x-y) parametric curves

ITEM	DESCRIPTION	CIRCLE CURVE					ASTEROID + EPICYCLOID CURVE				
		FC10	FC20	FC25	FC30	FC40	FC10	FC20	FC25	FC30	FC40
1	Run user feedrate command (mm/s)										
2	Total interpolated u-points	49641	24822	19859	16549	12413	76275	38169	30563	25499	19184
3	Parameter completion (reached u-end)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
	Pushdown epsilon eps(u) algorithm										
4	Count before pushdown, eps(u) is below (1E-6)	49641	24822	19859	16549	12413	76275	38061	30413	25309	18917
5	Count pushdown points, eps(u) to below (1E-6)	0	0	0	0	0	0	108	150	190	267
	Epsilon eps(u) chord error										
6	Count eps(u) above (1E-6)	0	0	0	0	0	0	0	0	0	0
7	Count eps(u) in (1E-7, 1E-6)	0	6959	17603	16549	12413	407	820	4011	6679	13976
8	Count eps(u) in (1E-8, 1E-7)	49641	17863	2256	0	0	23373	37349	26552	18820	5208
9	Count eps(u) in (1E-9, 1E-8)	0	0	0	0	0	52495	0	0	0	0
10	Count eps(u) in (1E-10, 1E-9)	0	0	0	0	0	0	0	0	0	0
11	Count eps(u) below (1E-10)	0	0	0	0	0	0	0	0	0	0
	Count interpolated u-points										
12	Count_rising_S_curve u-points	2483	1242	993	828	621	4437	2219	1775	1479	1110
13	Count_frate is_lower than fratelimit	22363	11171	8936	7449	5586	33349	16686	13352	11144	8085
14	Count_frate is_equal to fratelimit	0	0	0	0	0	0	0	0	0	0
15	Count_frate is_higher than fratelimit	22313	11168	8937	7445	5585	35536	17787	14254	11891	9250
16	Count_falling_S_curve u-points	2482	1241	993	827	621	2953	1477	1182	985	739
	Count u-points histogram (G01 codes)										
17	Count u-points [0.00 <= u < 0.10)	4964	2482	1985	1654	1241	8110	4055	3244	2704	2028
18	Count u-points [0.10 <= u < 0.20)	4964	2482	1986	1655	1241	4901	2478	2009	1702	1334
19	Count u-points [0.20 <= u < 0.30)	4964	2482	1986	1655	1241	7391	3696	2957	2464	1848
20	Count u-points [0.30 <= u < 0.40)	4964	2482	1986	1655	1241	7234	3617	2894	2412	1809
21	Count u-points [0.40 <= u < 0.50)	4964	2482	1986	1655	1242	9182	4592	3673	3061	2297
22	Count u-points [0.50 <= u < 0.60)	4964	2483	1985	1655	1241	7216	3608	2887	2406	1804
23	Count u-points [0.60 <= u < 0.70)	4964	2482	1986	1655	1241	9831	4916	3933	3278	2458
24	Count u-points [0.70 <= u < 0.80)	4964	2482	1986	1655	1241	7525	3763	3010	2508	1882
25	Count u-points [0.80 <= u < 0.90)	4964	2482	1986	1654	1242	8801	4401	3521	2935	2201
26	Count u-points [0.90 <= u <= 1.00]	4965	2483	1987	1656	1242	6084	3043	2435	2029	1523
27	Check Total u-points	49641	24822	19859	16549	12413	76275	38169	30563	25499	19184
	Performance										
28	Total curve error (sum of epsilon(u))	0.001094	0.001094	0.002188	0.002735	0.004375	0.00084	0.001642	0.00202	0.00239	0.003111
29	Total dist traversed (sum of chord lengths)	496.3786	496.3772	496.3964	496.3757	496.3943	426.2622	426.2622	426.2622	426.2622	426.2622
30	Percent (Tot curve error / Tot dist traversed)	0.00022	0.00022	0.000441	0.000551	0.000881	0.000197	0.000385	0.000474	0.000561	0.00073

	NOTES										

Sheet1