

"Pseudo-MPEC" for SWAN25FCreated 2025 Apr 3 18:59:14 UT using [Find_Orb](#)[Click here for an explanation of pseudo-MPECs](#)

- [Astrometry](#)
- [Observing stations](#)
- [Orbital elements](#)
- [Residuals](#)
- [Ephemeris](#)
- [Astrometry \(from NEOCP, if available\)](#)
- ['Scout' \(JPL\) information](#)
- [NEOfixer information](#)

Orbit Simulator View

Astrometry:

SWAN25F	C2025	03	26.93464	22	50	53.87	+18	18	48.9	14.0	VqNEOCP	N89
SWAN25F	C2025	03	26.94547	22	50	55.79	+18	19	10.1	14.4	VqNEOCP	N89
SWAN25F	C2025	03	26.95627	22	50	57.68	+18	19	32.8	14.3	VqNEOCP	N89
SWAN25F	KB2025	04	01.89853	23	10	27.690+21	54	51.17		13.3	VZNEOCP	O40
SWAN25F	KB2025	04	01.89925	23	10	27.823+21	54	52.80		13.3	VZNEOCP	O40
SWAN25F	KB2025	04	01.89997	23	10	28.021+21	54	55.08		13.3	VZNEOCP	O40
SWAN25F	KB2025	04	03.13191	23	15	11.57	+22	43	27.7	13.6	NXNEOCP	D15
SWAN25F	*KB2025	04	03.13479	23	15	12.22	+22	43	36.2	12.3	GXNEOCP	A71
SWAN25F	KB2025	04	03.13617	23	15	12.60	+22	43	38.9	12.4	GXNEOCP	A71
SWAN25F	KB2025	04	03.13618	23	15	12.61	+22	43	37.7	13.6	NXNEOCP	D15
SWAN25F	KB2025	04	03.13703	23	15	12.83	+22	43	40.8	12.5	GXNEOCP	A71
SWAN25F	KB2025	04	03.13782	23	15	12.99	+22	43	42.8	12.6	GXNEOCP	A71
SWAN25F	KB2025	04	03.14045	23	15	13.62	+22	43	48.3	13.4	NXNEOCP	D15
SWAN25F	B2025	04	03.17667	23	15	22.226+22	45	15.91		12.9	GWNEOCP	970
SWAN25F	B2025	04	03.17799	23	15	22.546+22	45	18.97		13.0	GWNEOCP	970
SWAN25F	B2025	04	03.17932	23	15	22.819+22	45	22.18		12.9	GWNEOCP	970
SWAN25F	B2025	04	03.18064	23	15	23.174+22	45	25.52		12.9	GWNEOCP	970
SWAN25F	9B2025	04	03.23950	23	15	37.176+22	47	48.19		11.5	GVNEOCP	G40
SWAN25F	9B2025	04	03.24281	23	15	38.021+22	47	55.75		11.0	GVNEOCP	G40
SWAN25F	9B2025	04	03.24631	23	15	38.794+22	48	05.65		11.2	GVNEOCP	G40

Station data:

- (970) [Chelmsford](#) ([N51.744713](#) [E0.495400](#)) UK/England. Observer [N. James](#).
0.28-m f/10 Schmidt-Cassegrain + CCD.
- (A71) [Stixendorf](#) ([N48.428772](#) [E15.453300](#)) Austria. Observers M. Jaeger, E. Prosperi, S. Prosperi. Measurer M. Jaeger. 0.2-m f/2.0 reflector + CCD.
- (D15) [Sternwarte F.Schiller-Gymnasium, Weimar](#) ([N50.983391](#) [E11.317810](#))
Germany. Observer T. Lehmann. 0.28-m f/2.2 reflector.
- (G40) [Slooh.com Canary Islands Observatory](#) ([N28.299717](#) [W16.508260](#)) Canary
Islands (Spain). Observer B. Lütkenhöner. Measurers G. [Gašparović](#), Y.
Chen. 0.43-m f/6.8 Corrected Dall-Kirkham + CCD.
- (N89) [Xingming Observatory #2, Nanshan](#) ([N43.470804](#) [E87.179060](#)) China.
Observers M. Zhang, X. Gao. Measurer M. Zhang. 0.50-m f/4 reflector + CCD.
- (O40) [Xingyuan, Daocheng](#) ([N29.013061](#) [E100.228610](#)) China.

Orbital elements: SWAN25F

Perihelion 2025 May 1.09984 +/- 0.0219 TT = 2:23:45 (JD 2460796.59984)
Epoch 2025 Apr 3.0 TT = JDT 2460768.5 Earth MOID: 0.6275 Ju: 0.4167
q 0.33362132 +/- 0.000773 Me: 0.0055 Sa: 0.5233 Auto-Find
H 11.05 G 0.15 Peri. 153.72514 +/- 0.19
z -0.0077852165 +/- 0.00954 Node 329.92289 +/- 0.037
e 1.0025973 +/- 0.00319 Incl. 90.44410 +/- 0.07
From 20 observations 2025 Mar. 26-Apr. 3; mean residual 0".46

Residuals in arcseconds:

250326	N89	.38-	.21+	250403	A71	.58-	.87+	250403	970	.62+	.12+
250326	N89	.12+	.52-	250403	A71	.14+	.24+	250403	970	.02+	.12+

250326	N89	.27+	.31+	250403	D15	.47+	.73-	250403	970	.59+	.28+
250401	O40	.02+	.16-	250403	A71	.50+	.07+	250403	G40	1.1-	.27-
250401	O40	.38-	.21-	250403	A71	.12+	.17+	250403	G40	.29-	.71-
250401	O40	.14+	.38+	250403	D15	.42+	.41-	250403	G40	1.1-	.73+
250403	D15	.10+	.45-	250403	970	.53+	.24+				

Ephemerides for (970) Chelmsford: SWAN25F:

Date (UTC)	RA	Dec	delta	r	elong	mag	'/hr	PA	"	sig	PA
2025 04 01	23 07 10.690	+21 20 14.16	1.5912	.85580	28.4	13.1	2.629	52.8	.477	144	
2025 04 02	23 10 50.172	+21 58 45.70	1.5643	.83517	28.5	13.1	2.722	53.3	.303	143	
2025 04 03	23 14 40.222	+22 38 11.05	1.5374	.81445	28.6	13.0	2.822	53.9	7.0m	106	
2025 04 04	23 18 41.765	+23 18 29.47	1.5104	.79364	28.6	13.0	2.927	54.5	.430	143	
2025 04 05	23 22 55.824	+23 59 39.61	1.4835	.77277	28.7	12.9	3.039	55.2	1.02	142	
2025 04 06	23 27 23.532	+24 41 39.31	1.4566	.75183	28.7	12.8	3.158	55.9	1.79	141	
2025 04 07	23 32 06.139	+25 24 25.46	1.4297	.73083	28.6	12.8	3.285	56.8	2.77	141	
2025 04 08	23 37 05.021	+26 07 53.68	1.4028	.70978	28.6	12.7	3.420	57.7	3.97	140	
2025 04 09	23 42 21.695	+26 51 58.11	1.3761	.68870	28.5	12.6	3.564	58.7	5.45	139	
2025 04 10	23 47 57.820	+27 36 31.01	1.3495	.66760	28.4	12.6	3.716	59.9	7.22	139	
2025 04 11	23 53 55.209	+28 21 22.33	1.3231	.64650	28.2	12.5	3.879	61.1	9.34	139	
2025 04 12	00 00 15.825	+29 06 19.26	1.2969	.62542	28.0	12.4	4.052	62.5	11.9	139	
2025 04 13	00 07 01.777	+29 51 05.56	1.2710	.60440	27.8	12.4	4.236	64.0	14.8	139	
2025 04 14	00 14 15.297	+30 35 20.94	1.2454	.58346	27.5	12.3	4.431	65.6	18.3	139	
2025 04 15	00 21 58.712	+31 18 40.20	1.2202	.56265	27.1	12.2	4.638	67.4	22.4	139	
2025 04 16	00 30 14.380	+32 00 32.41	1.1955	.54202	26.8	12.2	4.856	69.4	27.2	140	
2025 04 17	00 39 04.606	+32 40 19.94	1.1713	.52162	26.3	12.1	5.086	71.6	32.7	140	
2025 04 18	00 48 31.507	+33 17 17.57	1.1478	.50153	25.9	12.0	5.328	74.0	39.2	141	
2025 04 19	00 58 36.835	+33 50 31.62	1.1250	.48183	25.4	12.0	5.579	76.6	46.6	142	
2025 04 20	01 09 21.739	+34 18 59.49	1.1031	.46262	24.8	11.9	5.840	79.4	55.2	144	
2025 04 21	01 20 46.460	+34 41 29.59	1.0821	.44403	24.2	11.9	6.106	82.5	65.0	145	
2025 04 22	01 32 49.986	+34 56 42.13	1.0623	.42621	23.6	11.8	6.375	85.8	76.2	147	
2025 04 23	01 45 29.670	+35 03 11.19	1.0437	.40930	22.9	11.8	6.642	89.4	89.0	149	
2025 04 24	01 58 40.879	+34 59 28.25	1.0266	.39352	22.3	11.7	6.901	93.2	103	152	
2025 04 25	02 12 16.750	+34 44 07.75	1.0112	.37907	21.7	11.7	7.144	97.2	120	155	
2025 04 26	02 26 08.144	+34 15 54.35	0.9975	.36620	21.1	11.7	7.362	101.4	138	158	
2025 04 27	02 40 03.905	+33 33 51.73	.98586	.35514	20.5	11.7	7.544	105.8	157	162	
2025 04 28	02 53 51.470	+32 37 31.59	.97635	.34615	20.0	11.7	7.680	110.2	179	166	
2025 04 29	03 07 17.817	+31 27 01.22	.96914	.33946	19.7	11.7	7.759	114.6	201	170	
2025 04 30	03 20 10.609	+30 03 07.56	.96432	.33524	19.4	11.7	7.775	118.9	225	174	
2025 05 01	03 32 19.334	+28 27 16.22	.96193	.33364	19.3	11.7	7.724	123.1	250	178	
2025 05 02	03 43 36.183	+26 41 24.74	.96196	.33469	19.4	11.7	7.606	127.1	275	3	
2025 05 03	03 53 56.498	+24 47 51.41	.96431	.33836	19.6	11.7	7.426	130.9	299	8	
2025 05 04	04 03 18.737	+22 49 01.74	.96884	.34455	19.9	11.7	7.195	134.4	324	13	
2025 05 05	04 11 44.029	+20 47 15.77	.97538	.35308	20.4	11.7	6.924	137.5	348	17	
2025 05 06	04 19 15.502	+18 44 38.30	.98371	.36372	21.0	11.7	6.626	140.4	371	22	
2025 05 07	04 25 57.563	+16 42 53.12	0.9936	.37624	21.6	11.8	6.312	143.0	393	26	
2025 05 08	04 31 55.248	+14 43 21.18	1.0048	.39037	22.4	11.8	5.993	145.2	415	30	
2025 05 09	04 37 13.730	+12 47 01.50	1.0172	.40589	23.1	11.8	5.677	147.2	436	35	
2025 05 10	04 41 57.989	+10 54 34.01	1.0305	.42257	23.9	11.9	5.370	149.0	456	38	
2025 05 11	04 46 12.615	+09 06 22.90	1.0446	.44022	24.7	11.9	5.076	150.5	476	42	
2025 05 12	04 50 01.717	+07 22 40.20	1.0592	.45865	25.5	12.0	4.798	151.8	496	45	
2025 05 13	04 53 28.902	+05 43 28.81	1.0744	.47774	26.3	12.0	4.537	152.9	515	48	
2025 05 14	04 56 37.293	+04 08 45.15	1.0898	.49734	27.1	12.1	4.294	153.9	533	51	
2025 05 15	04 59 29.570	+02 38 21.22	1.1056	.51735	27.8	12.2	4.069	154.7	551	54	
2025 05 16	05 02 08.022	+01 12 06.14	1.1215	.53768	28.6	12.2	3.860	155.4	569	57	
2025 05 17	05 04 34.597	-00 10 12.67	1.1376	.55827	29.4	12.3	3.667	156.0	587	59	
2025 05 18	05 06 50.949	-01 28 48.67	1.1537	.57904	30.1	12.4	3.490	156.5	604	61	
2025 05 19	05 08 58.486	-02 43 55.59	1.1698	.59995	30.9	12.4	3.327	156.9	620	63	
2025 05 20	05 10 58.405	-03 55 47.06	1.1859	.62095	31.6	12.5	3.176	157.3	636	65	
2025 05 21	05 12 51.725	-05 04 36.30	1.2019	.64201	32.3	12.6	3.038	157.5	652	67	
2025 05 22	05 14 39.315	-06 10 36.00	1.2179	.66311	33.0	12.6	2.911	157.7	667	68	
2025 05 23	05 16 21.918	-07 13 58.20	1.2337	.68420	33.7	12.7	2.794	157.8	682	70	
2025 05 24	05 18 00.171	-08 14 54.25	1.2493	.70528	34.4	12.8	2.687	157.9	697	71	
2025 05 25	05 19 34.618	-09 13 34.75	1.2649	.72633	35.0	12.8	2.588	158.0	711	72	
2025 05 26	05 21 05.729	-10 10 09.64	1.2802	.74734	35.7	12.9	2.497	158.0	724	74	
2025 05 27	05 22 33.906	-11 04 48.12	1.2954	.76829	36.3	12.9	2.414	158.0	738	75	
2025 05 28	05 23 59.499	-11 57 38.74	1.3104	.78918	37.0	13.0	2.336	158.0	750	76	
2025 05 29	05 25 22.808	-12 48 49.43	1.3253	.80999	37.6	13.1	2.265	157.9	763	77	
2025 05 30	05 26 44.094	-13 38 27.50	1.3399	.83072	38.3	13.1	2.199	157.8	775	77	