

**Polynomial Coefficients for Interpolation of Declination, Equation of Time and Star Time,
2023**

		R hour		R hour		R hour		R hour
a ₀	Jan.	6.627046	Apr.	12.540930	Jul.	18.520524	Oct.	0.565828
a ₁		2.102714		2.102714		2.102714		2.102714
a ₀	Feb.	8.664051	May	14.512225	Aug.	20.557529	Nov.	2.602833
a ₁		2.102714		2.102714		2.102714		2.102714
a ₀	Mar.	10.503926	Jun.	16.549230	Sep.	22.594534	Dec.	4.574128
a ₁		2.102714		2.102714		2.102714		2.102714

		Dec °	E hour		Dec °	E hour		Dec °	E hour
a ₀	Jan.	-23.114659	11.954818	May	14.627006	12.044597	Sep.	8.809028	11.990685
a ₁		2.272606	-0.255402		9.869775	0.071528		-11.482788	0.166303
a ₂		3.936077	0.042500		-2.051904	-0.071262		-1.223790	0.042233
a ₃		-0.200812	0.040774		-0.487967	-0.022220		0.492244	-0.023537
a ₄		-0.130644	-0.006498		0.031845	0.014926		0.017763	-0.001773
a ₀	Feb.	-17.516752	11.778621	Jun.	21.847311	12.039919	Oct.	-2.612580	12.162925
a ₁		8.862745	-0.082877		4.638136	-0.074910		-12.420792	0.177552
a ₂		2.622968	0.121463		-3.219160	-0.060853		0.178519	-0.040446
a ₃		-0.554012	-0.013179		-0.319257	0.022465		0.569357	-0.029447
a ₄		-0.041493	-0.001201		0.121900	0.007594		0.015084	0.002957
a ₀	Mar.	-8.149110	11.789570	Jul.	23.197310	11.940535	Nov.	-13.947060	12.272772
a ₁		12.074457	0.095571		-1.834877	-0.105001		-10.417606	0.027060
a ₂		0.969623	0.081665		-3.462270	0.029798		1.837614	-0.116552
a ₃		-0.513582	-0.039794		0.133979	0.034083		0.711031	-0.011930
a ₄		-0.026705	0.005051		0.096713	-0.006178		-0.061097	0.010563
a ₀	Apr.	3.967660	11.927058	Aug.	18.377322	11.892285	Dec.	-21.560007	12.193978
a ₁		12.412444	0.159522		-7.812833	0.025950		-5.301188	-0.187326
a ₂		-0.651152	-0.006765		-2.576619	0.083579		3.461735	-0.107514
a ₃		-0.463709	-0.041261		0.432356	0.000236		0.531301	0.048166
a ₄		-0.030005	0.010287		0.029048	-0.006092		-0.190400	0.001511

		SD (°)		SD (°)		SD (°)		SD (°)
a ₀	Jan.	0.271224	Apr.	0.266953	Jul.	0.262147	Oct.	0.266118
a ₁		-0.000489		-0.002378		0.000367		0.002423
a ₀	Feb.	0.270712	May	0.264687	Aug.	0.262516	Nov.	0.268505
a ₁		-0.001645		-0.001811		0.001481		0.001945
a ₀	Mar.	0.269248	Jun.	0.262918	Sep.	0.263984	Dec.	0.270362
a ₁		-0.002325		-0.000813		0.002234		0.000883

σ _{Dec} =	0".1685 (degree second)
σ _E =	0 ^s .0324 (hour second)
σ _R =	0 ^s .0013 (hour second)
σ _{SD} =	0".1237 (degree second)

Note: For Declination (Dec) and Equation of Time (E): $y = a_0 + a_1 \cdot x + a_2 \cdot x^2 + a_3 \cdot x^3 + a_4 \cdot x^4$
 For Star Time, GMST, (R): $y = a_0 + a_1 \cdot x$
 Here, $(x = \text{day}/32, \text{ e.g. for 05 April 2023; } x = 5/32 = 0.1563)$