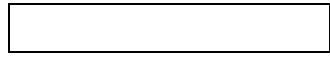


2003



1994

(39 40) ( والقمر قدرناه منازل حتى عاد كالعرجون  
القديم لا الشمس ينبغي لها أن تدرك القمر ولا الليل سابق النهار  
وكل في فلك يسبحون ) .

"

"

" "

(189) ( يسألونك عن الأهله قل هي مواقيت للناس  
والحج ) .

(4) ( والائى يئسن من المحيض من  
نسائكم إن أرتبتم فعدتهن ثلاثة أشهر والائى لم يحضن وأولات  
الأحمال أجلهن أن يضعن حملهن ومن يتق الله يجعل له من أمره  
يسرا ) .

( )

"

(5) ( الشمس والقمر بحسبان )  
( هو الذى جعل الشمس ضياءً والقمر نورا ) وقدره منازل لتعلموا عدد  
السنين والحساب ما خلق الله ذلك إلا بالحق يفصل الآيات لقوم  
يعلمون )

)

.( : :

"

. ( )

"

13 "

" "

1919

" " 1500

( )  
 (0.01 %)  
 .( )  
 (39) ( والقمر قدرناه منازل حتى عاد كالعرجون  
 )  
 (1) القديم) . ( " 29.53059

" " "  
 ( " 27.32 )  
 ( )  
 51

" " "  
 4 8 . 51  
 . ( 2 ) 4

:  
 : (1)  
 "

. (1)  
 " " "  
 : (2)  
 7.5  
 1/4  
 90



( ) " 29.53059

" (2)

5.145396

( )  
( )

( )

(3)

0.05295378

( )

"

18.6

( )

"

9.3

( )  
( )

( )

( )

Ev (Evection)  
( Eccentricity)

(e)

"

Ae (Annual equation)

( )

"

"

"

v (variation)

Ec (Equation of Center)

"

9

$\frac{1}{5}$

A3

( 12)

1500

1919

$$\lambda_m = L' + \sum a_{ijkl} \sin(i \times M' + j \times M + k \times F + l \times D)$$

$$\beta_m = \sum b_{ijkl} \sin(i \times M' + j \times M + k \times F + l \times D)$$

$$\sin \pi_m = \sin \pi_o + \sum c_{ijkl} \cos(i \times M' + j \times M + k \times F + l \times D)$$

$$\sin \pi_o = 3422.485 \times \sin(1'')$$

$\sin \pi_o$   
 $\lambda_m$   
 $\beta_m$   
 $\pi_m$   
 $l, k, j, i$

(5) ( 2004 - 2003) ( ) ( )

$\gamma N'mAN, N'SN$

E (3)

:( )  
 :( )  
 S  
 M  
 A  
 N, N'  
 \gamma

:(a) .1  
 (i) .2  
 (e) .3  
 " "

- .(L') .4
- .(Ω) .5
- .(Γ ' ) .6

( )  
 2000 1.5 ( )  
 "

:

$$L' = L_o' + 13.17639686 \text{ ND}$$

$$\Omega = \Omega_o - 0.05295378 \text{ ND}$$

$$\Gamma' = \Gamma_o' + 0.11140444 \text{ ND}$$

$\Gamma_o', \Omega_o, L_o'$   
 . ( 4 )

( 360 - 0 )

( ) *ND*

$$ND = JDE - JDE_o$$

) *JDE\_o*

( 2000  
*JDE*

( )

:

- . ( F ) .1
- . ( M ) .2
- ( M' ) .3

:

$$M = 2.5534 + 0.9856473 \times ND$$

$$M' = 201.5643 + 13.06499325 \times ND$$

$$F = 160.7108 + 13.2293505 \times ND$$

$$JDE_{\circ} = 2000 + 6 \times 2451550.09765$$

$$L' = 285.486 + 13.17639686 \times ND$$

$$\Omega = 124.775 - 0.05295378 \times ND$$

$$\Gamma' = 83.922 + 0.11140444 \times ND$$

"

$$(4) \quad (2004-2003)$$

$$: \quad \left( \frac{K}{T} \right) K \quad T$$

$$K = (\text{YEAR} - 2000) \times 12.3685$$

$$T = \frac{K}{1236.85}$$

T T "

.( *JDEM* )

$$JDEM = f ( K , T )$$

*JDET*

(  $\Delta JDE$  )

.( 3 )

.( TD )

( )

1989

7

( )

8 7

5

14.5

-:

: -1

: -2

. %4

:

" "

-

( )

-

"

%1

( )

-

. %4 )

. (

"

(1)

.( ) . 360	<b>29 12 44 03</b>	
"	<b>27 07 43 12</b>	
) . ( ) . 360	<b>27 05 05 36</b>	
"	<b>27 13 18 33</b>	
. ( ) . 360	<b>27 07 43 05</b>	
. ( ) . 360		



جدول (2) صفحة عريضة

(3)

( 2003 )

JDEM اللحظة المتوسطة للافتران (بالأيام)	ΔJDE التصحيات (بالأيام)	JDET اللحظة الحقيقية للافتران (بالأيام)	اليوم	التاريخ	الزمن (بالتوقيت العالمي الموحد) د س
2452642.72916	-0.37836536	2452642.35079		2003/01/02	22 24
2452672.25975	-0.30779921	2452671.95195		2003/02/01	12 50
2452701.79034	-0.18116735	2452701.60917		2003/03/03	04 36
2452731.32093	-0.01496951	2452731.30596		2003/04/01	21 20
2452760.85152	0.15978038	2452761.01129		2003/05/01	14 15
2452790.38210	0.29917487	2452790.68128		2003/05/31	06 20
2452819.91269	0.36477491	2452820.27747		2003/06/29	20 39
2452849.44328	0.34365774	2452849.78694		2003/07/29	08 52
2452878.97387	0.25288214	2452879.22675		2003/08/27	19 26
2452908.50446	0.12711243	2452908.63157		2003/09/26	05 08
2452938.03505	0.0003221	2452938.03537		2003/10/25	14 50
2452967.56564	-0.10724801	2452967.45839		2003/11/24	00 59
2452997.09623	-0.19004686	2452996.90618		2003/12/23	11 44

( 2004 )

JDEM ( )	ΔJDE ( )	JDET ( )			( )
2453026.62682	-0.24652225	2453026.380295		2004/01/21	23 07
2453056.15741	-0.26791422	2453055.88949		2004/02/20	11 20
2453085.687996	-0.24038635	2453085.44761		2004/03/21	00 44
2453115.21859	-0.16013941	2453115.05845		2004/04/19	15 23
2453144.74918	-0.04466005	2453144.70451		2004/05/19	06 54
2453174.27976	0.07360681	2453174.35337		2004/06/17	22 28
2453203.81035	0.16543233	2453203.97579		2004/07/17	13 24
2453233.34094	0.21767551	2453233.55862		2004/08/16	03 23
2453262.87153	0.23186318	2453263.103395		2004/09/14	16 28
2453292.40212	0.21433251	2453292.61645		2004/10/14	04 47
2453321.93271	0.16907475	2453322.10179		2004/11/12	16 26
2453351.463299	0.09849505	2453351.56179		2004/12/12	03 28

د ← دقيقة ، س ← ساعة

(4)

( 2003)

$M_{\odot}$	$M'$	F	$\Omega$	$L'$	$\Gamma'$
359.50299	76.79761	215.51960	66.91602	282.43605	205.64603
28.60974	102.60818	246.19020	65.35226	311.54281	208.93587
57.71649	128.42512	276.86071	63.78851	340.64957	212.22571
86.82323	154.24206	307.53122	62.22475	09.75632	215.51555
115.92998	180.05901	338.20173	60.66099	38.86308	218.80538
145.03672	205.87595	08.87224	59.09724	67.96984	222.09522
174.14347	231.69290	39.54275	57.53348	97.07660	225.38506
203.25021	257.50984	70.21326	55.96972	126.18336	228.67490
232.35696	283.32678	100.88377	54.40597	155.29012	231.96474
261.46371	309.14373	131.55428	52.84221	184.39687	235.25458
290.57045	334.96067	162.22479	51.27846	213.50363	238.54442
319.67720	00.77762	192.89530	49.71470	242.61039	241.83426
348.78394	26.59456	223.56581	48.15094	271.71715	245.12409

(2004 ف)

$M_{\odot}$	$M'$	F	$\Omega$	$L'$	$\Gamma'$
17.89069	52.41151	254.23632	46.58719	300.82391	248.41393
46.99744	78.22845	284.90683	45.02343	329.93067	251.70377
76.10418	104.04539	315.57734	43.45967	359.03742	254.99361
105.21093	129.86234	346.24786	41.89592	28.14418	258.28345
134.31767	155.67928	16.91837	40.33216	57.25094	261.57329
163.42442	181.49623	47.58888	38.76840	86.35770	264.86313
192.53116	207.31317	78.25939	37.20465	115.46446	268.15297
221.63791	233.13011	108.92990	35.64089	144.57122	271.44280
250.74466	258.94706	139.60041	34.07714	173.67797	274.73264
279.85140	284.76400	170.27092	32.51338	202.78473	278.02248
308.95815	310.58095	200.94143	30.94962	231.89149	281.31232
338.06489	336.39789	231.61194	29.38587	260.99825	284.60216

ملحوظة :-

'  $\Gamma'$  ,  $L'$  ,  $\Omega$  , F ,  $M'$  ,  $M_{\odot}$

(5)

( 2003 )

	( )	( $\pi m$ )	( $\beta m$ )	( $\lambda m$ )	( $\lambda_{\odot}$ )
2003/01/02	22 24	0.96	-3.06	283.29	282.13
2003/02/01	12 50	0.94	-4.78	313.38	312.25
2003/03/03	04 36	0.92	-5.07	343.21	342.18
2003/04/01	21 20	0.91	-3.91	12.68	11.74
2003/05/01	14 15	0.90	-1.66	41.71	40.82
2003/05/31	06 20	0.91	1.01	70.33	69.43
2003/06/29	20 39	0.92	3.39	98.63	97.69
2003/07/29	08 52	0.94	4.86	126.81	125.83
2003/08/27	19 26	0.97	5.06	155.13	154.09
2003/09/26	05 08	0.99	3.88	184.10	182.73
2003/10/25	14 50	1.00	1.64	212.90	211.80
2003/11/24	00 59	1.01	-1.13	242.51	241.36
2003/12/23	11 44	1.00	-3.60	272.46	271.25

( 2004 )

	( ) د س	( $\pi m$ )	( $\beta m$ )	( $\lambda m$ )	( $\lambda_{\odot}$ )
2004/01/21	23 07	0.98	-4.99	302.49	301.26
2004/02/20	11 20	0.96	-4.91	332.34	331.16
2004/03/21	00 44	0.94	-3.41	1.83	0.75
2004/04/19	15 23	0.92	-0.97	30.88	29.92
2004/05/19	06 54	0.91	1.71	59.56	58.65
2004/06/17	22 28	0.90	3.90	87.94	87.05
2004/07/17	13 24	0.91	5.05	116.19	115.28
2004/08/16	03 23	0.92	4.87	144.51	143.58
2004/09/14	16 28	0.94	3.39	173.12	172.18
2004/10/14	04 47	0.97	0.94	202.17	201.20
2004/11/12	16 26	0.99	-1.82	231.71	230.67
2004/12/12	03 28	1.00	-4.07	261.61	260.48

د ← دقیقه ، س ← ساعه

(6)

2000	1990	1980	1990		
218.317	318.352	64.976	90.868	$L_o'$	
83.355	36.340	349.383	154.763	$\Gamma_o'$	( )
125.045	318.510	151.950	259.183	$\Omega_o$	

	:	"
	1989	-1
		-2
		-3
	1993	-4
1989		-5
( 8-1 )		-6

:

- 1- Ivan , R. king , 1979 , The Universe Unfolding , W. H. Freeman and company , San Francisco .
- 2- John , D. Fix , 1995 1st Edition , Astronomy , Mosby , Yeai Book , Inc.
- 3- Meeus, Jean , 1991 1st Edition , Astronomical Algorithms , Willmann- Bell,Inc.
- 4- Smith , Peter Duffett , 1983 2nd Edition , Practical Astronomy with your calculator C . U . P .
- 5- Thomas Arny , 1979 2nd Edition , Introductory Astronomy , Wesley Publishing company , Inc .