

ANY INTERNACIONAL DE L'ASTRONOMIA 2009
UN UNIVERS PER DESCOBRIR

**Astronomia a l'ensenyament secundari:
l'estudi científic de l'Univers, una opció
curricular ideològica**

IEC, Barcelona, 4 de novembre de 2009

Josep Masalles Román

UAB
Universitat Autònoma de Barcelona
Institut de Ciències de l'Educació

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**El llegat de Galileu: Punt de partida per a l'observació
científica i el coneixement del Cosmos**

... per a tothom

Suggeriments de treball per Escoles i Instituts

IEC, Barcelona, 4 de novembre de 2009

Josep Masalles Román

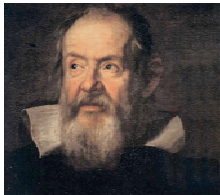
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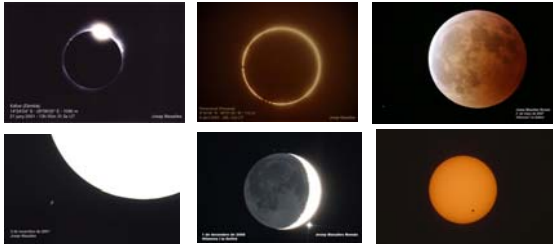
Aprovació per l'Assemblea de la ONU, el 19 de desembre del 2007
A proposta de la UNESCO i de la UAI, el 27 d'octubre de 2006


↑
1609



1 

2 

3 

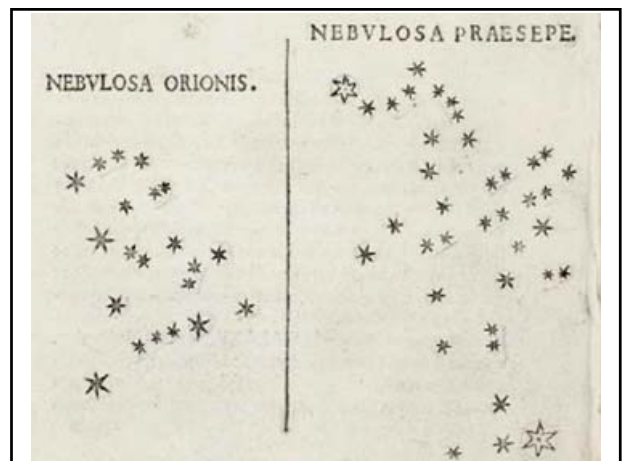
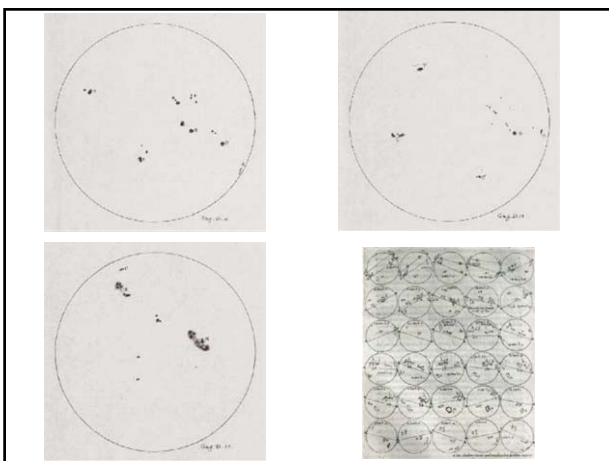
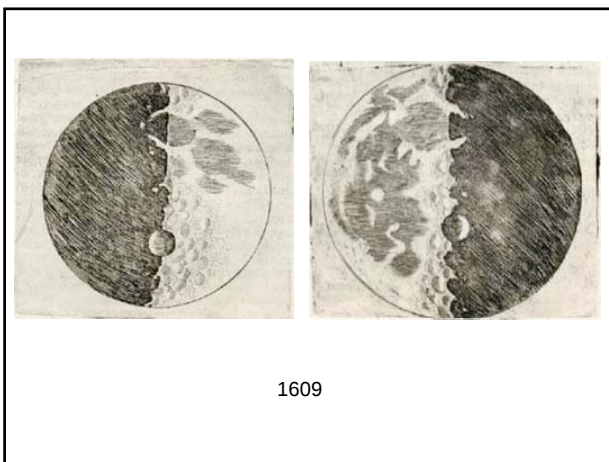
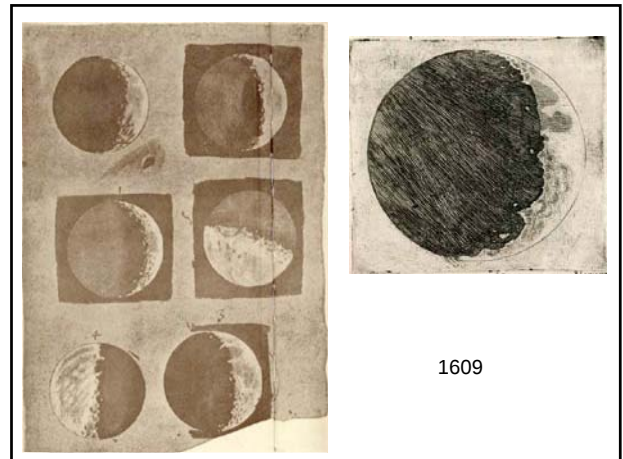
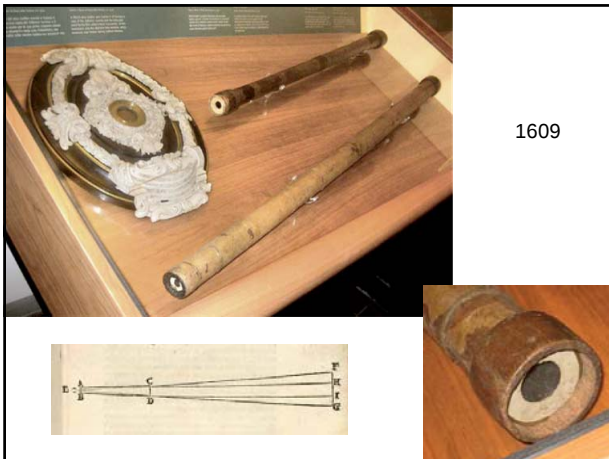
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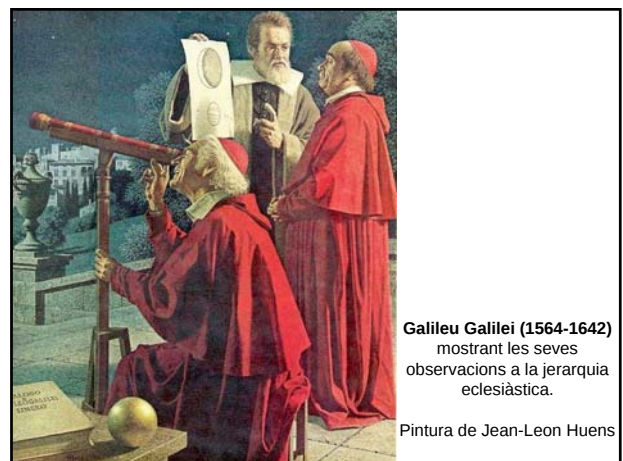
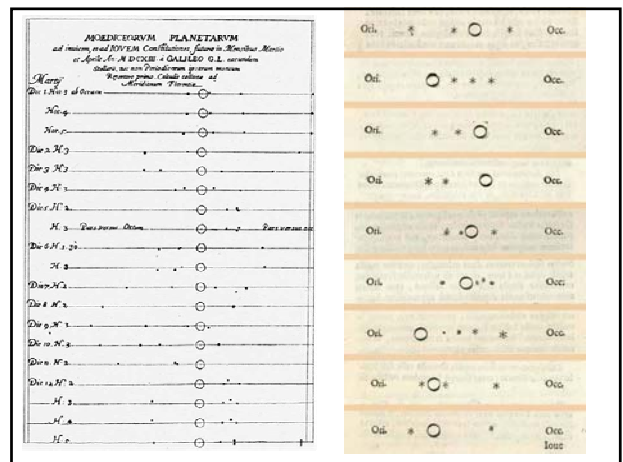
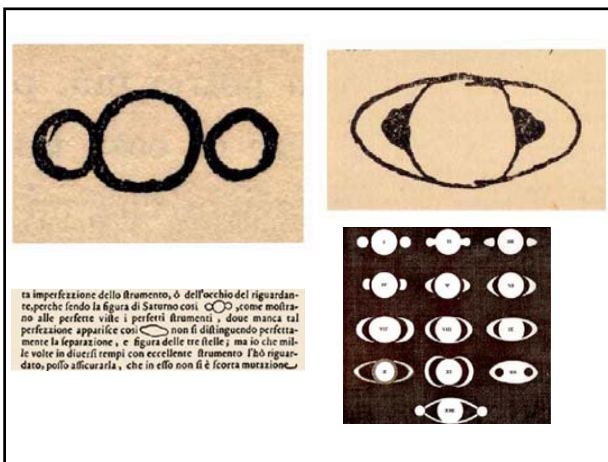
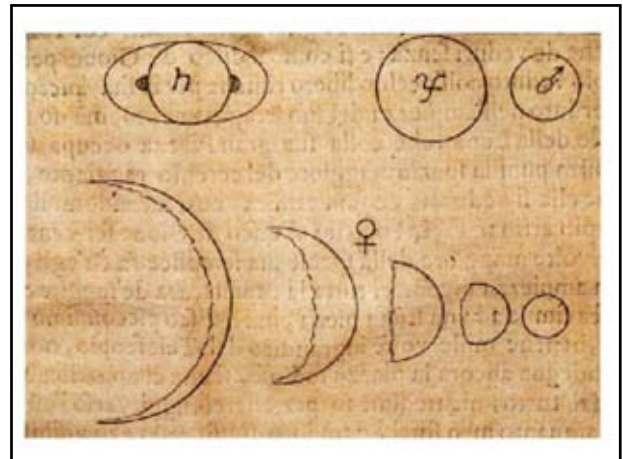
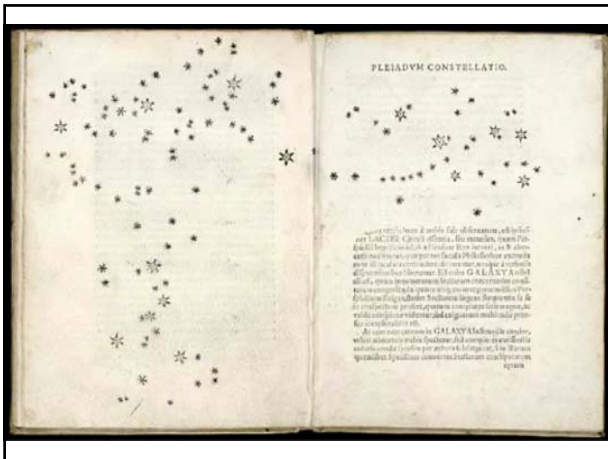


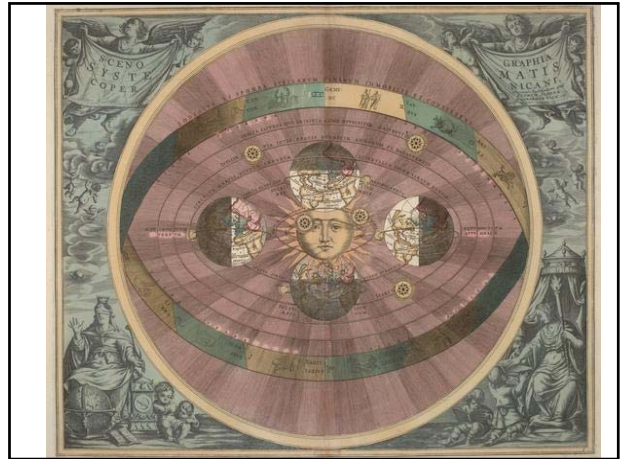
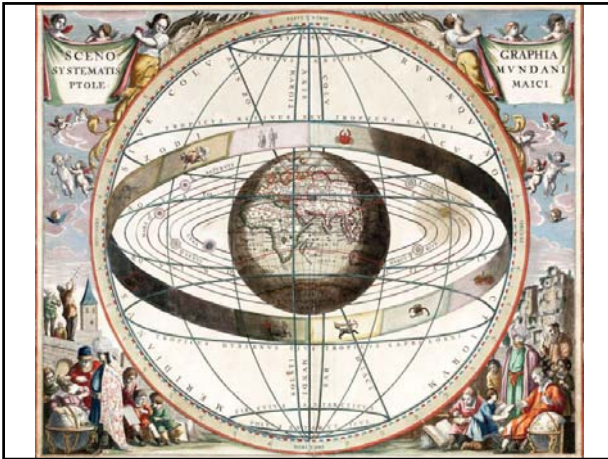
Galileu Galilei
Pisa, 1564
Florència, 1642


↑
1609





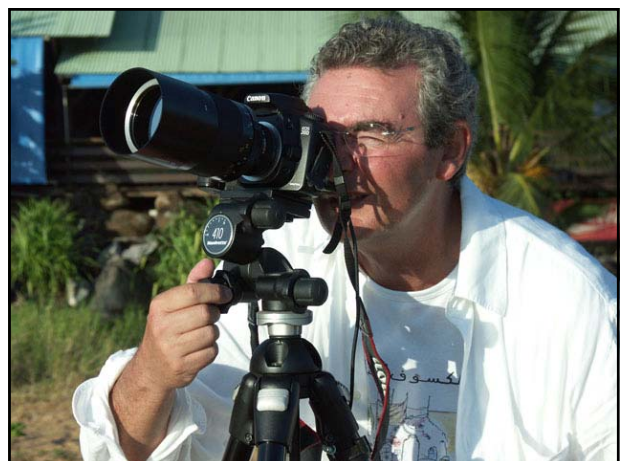




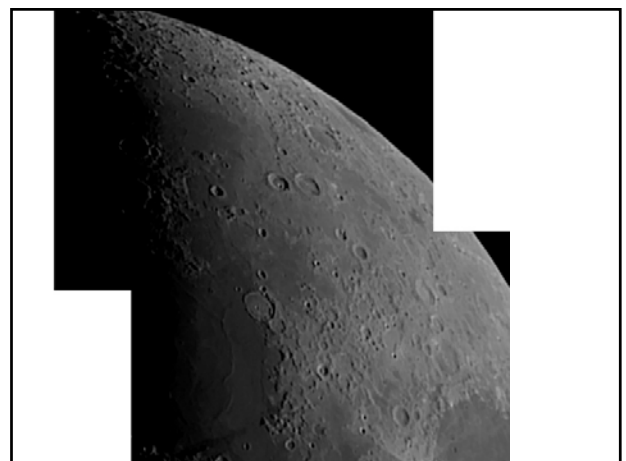
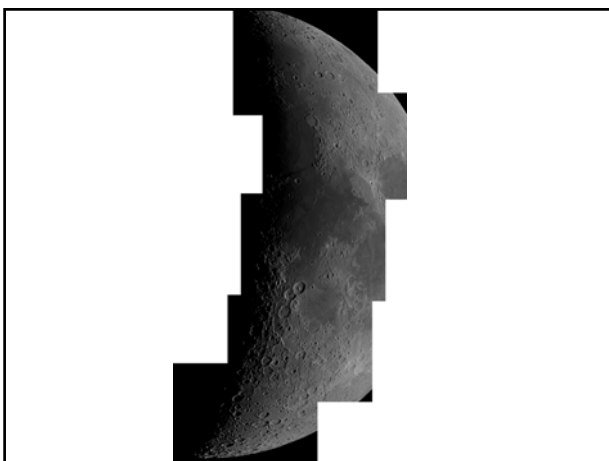
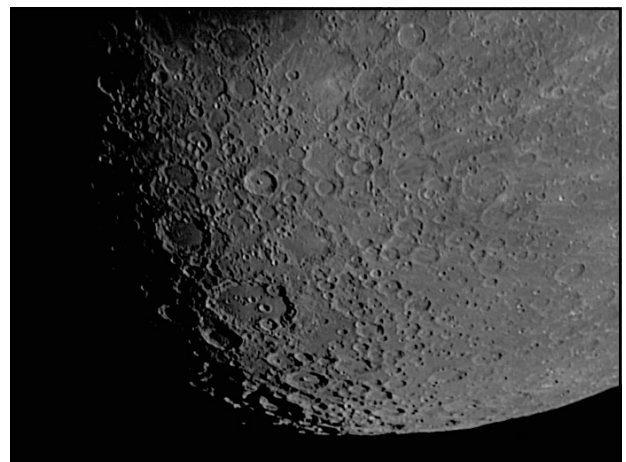
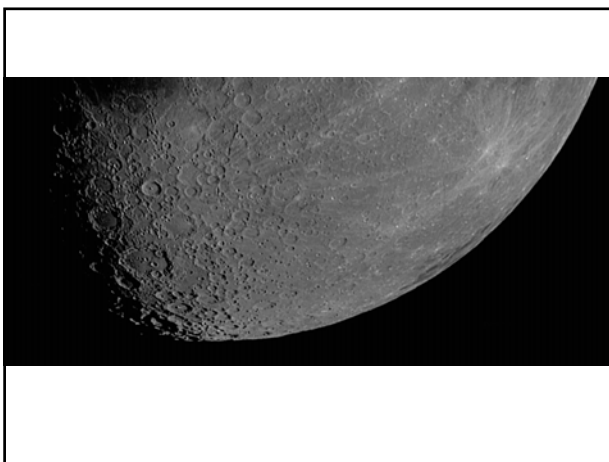
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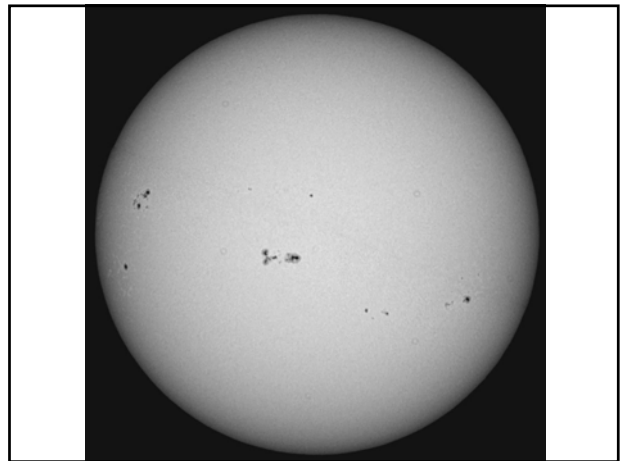


2









ASTER
Agencia Astronómica de Barcelona
BARCELONA

Instrument: [J16-76310] [B-432660] Oc. S' Barometre: 759.61 mmHg Tm: 12.1°C

Altitude: [] Presión (en mm): 8.28 $\phi = \lambda + \delta$ Qualitat imatge: S _____ Q _____

N° NOAA	Milimèts	N° NOAA	Milimèts
1 <u>117</u>	<u>0.0</u>	8	<u>15</u>
2		9	<u>16</u>
3		10	<u>17</u>
4		11	<u>18</u>
5		12	<u>19</u>
6		13	<u>20</u>
7		14	<u>21</u>

Oc. 1 C: 117.6

Korona F: Ho: 1.4 Lo: _____

W: 1 P: 2.4 N.T.: 14.0

N° Ref. Pany Wall _____

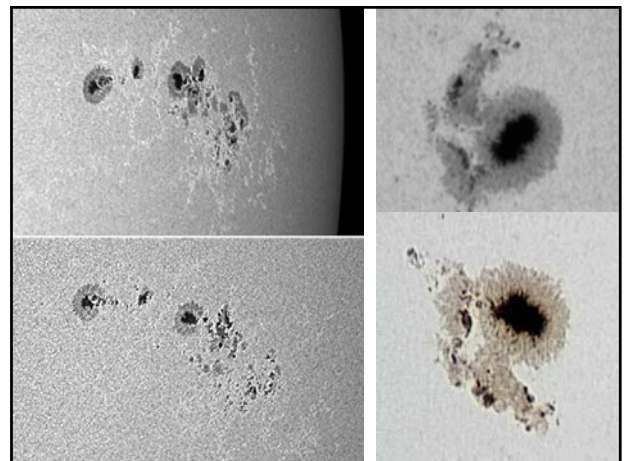
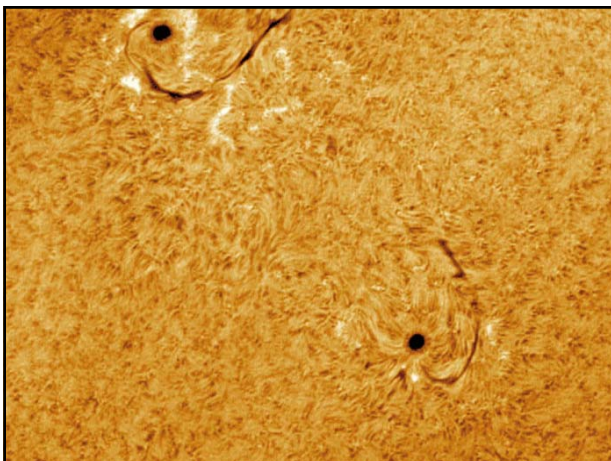
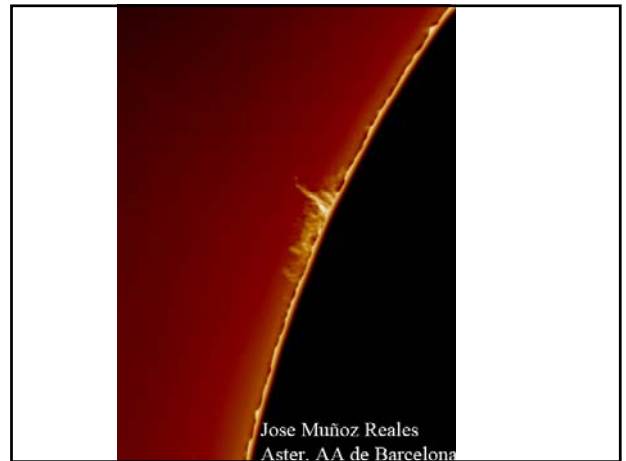
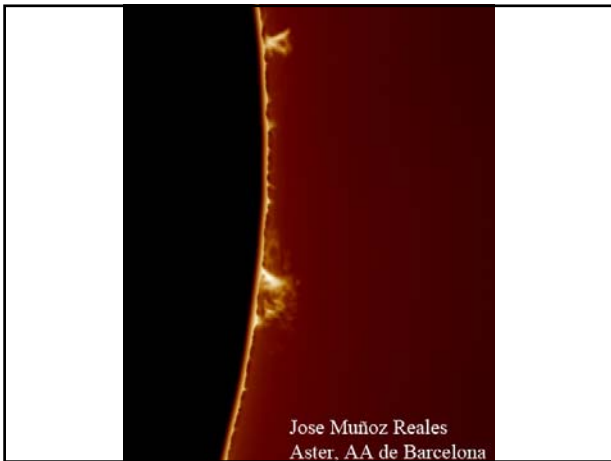
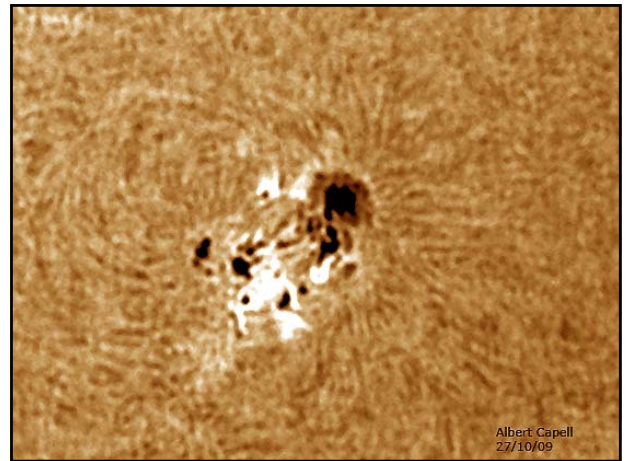
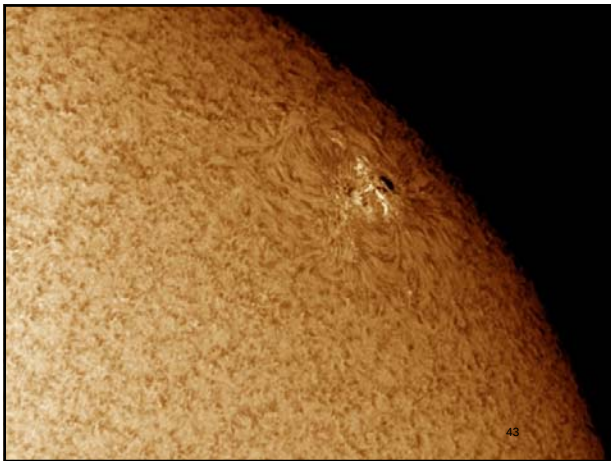
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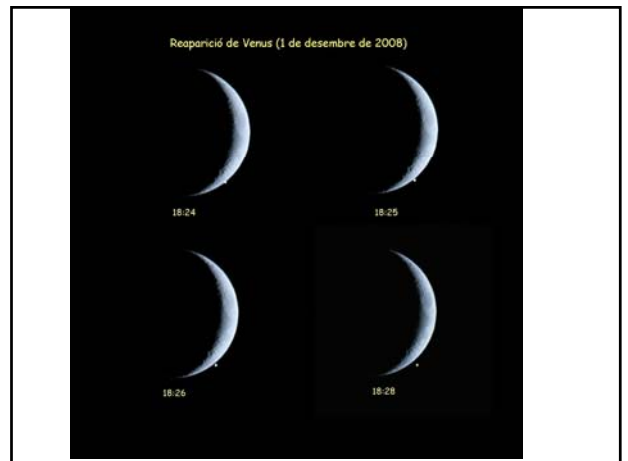
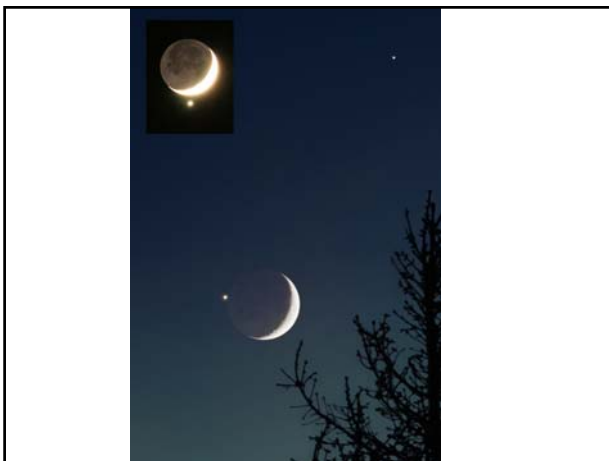
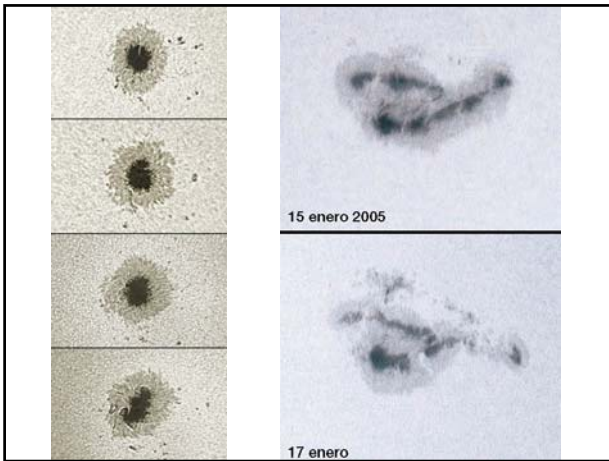
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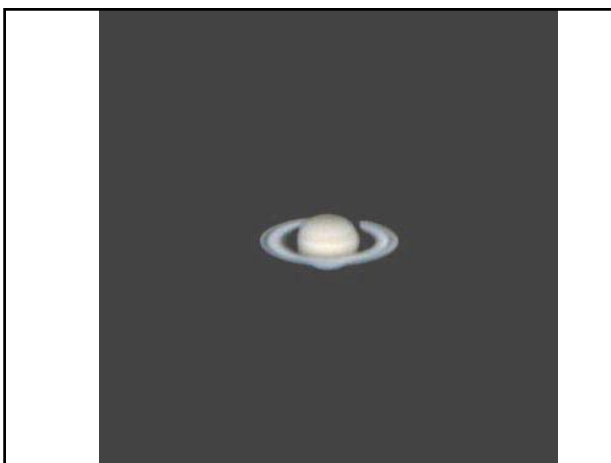
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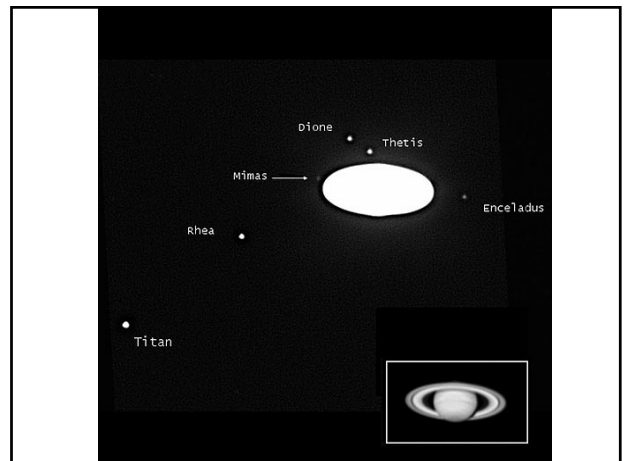
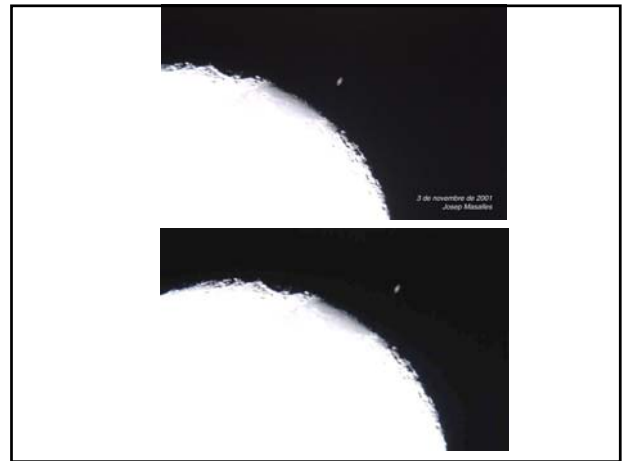
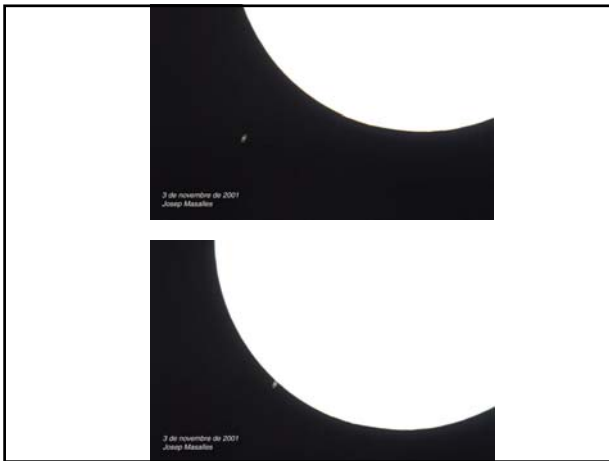
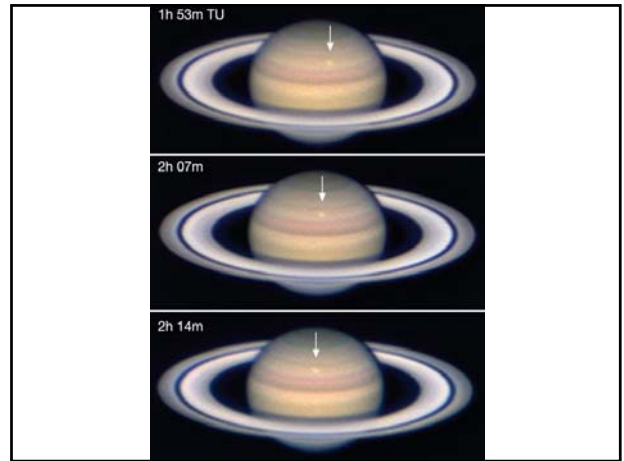
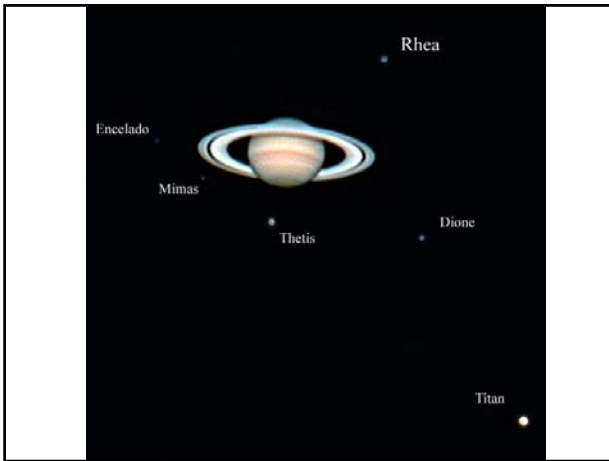
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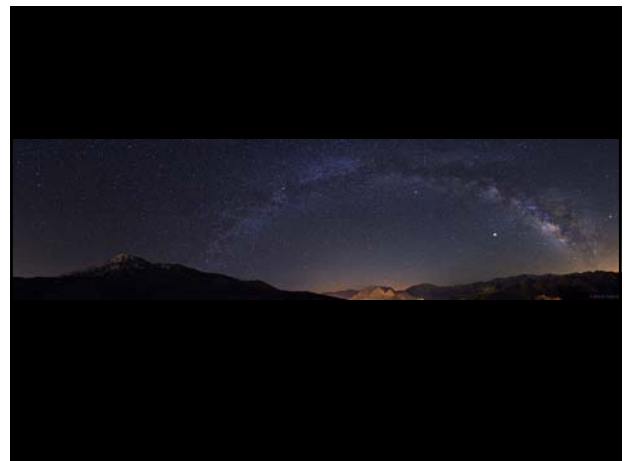
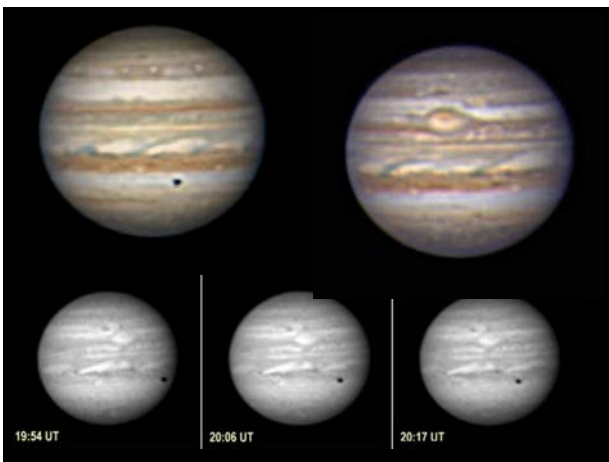
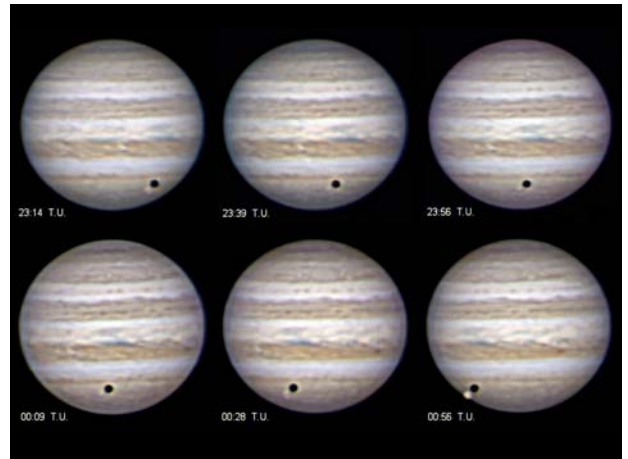
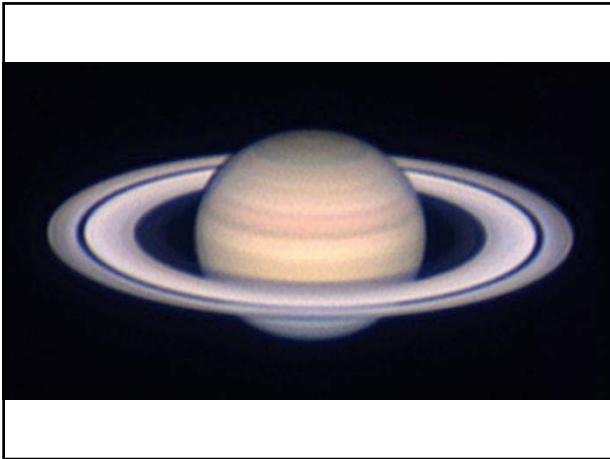
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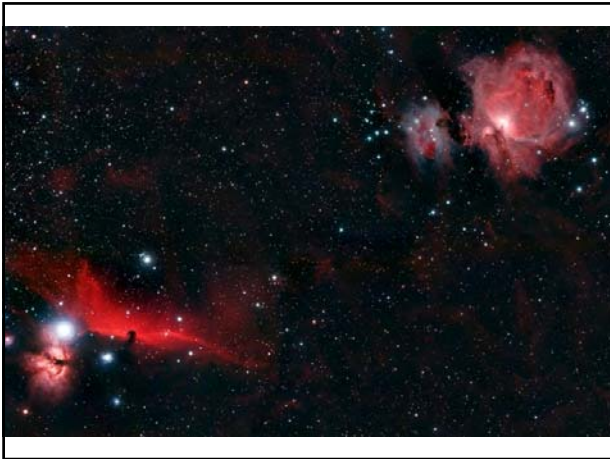




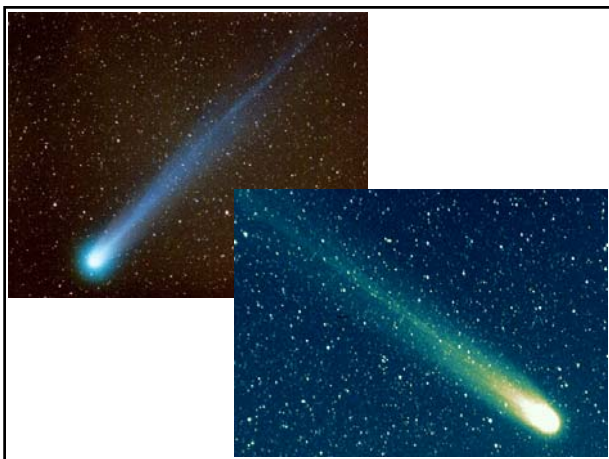
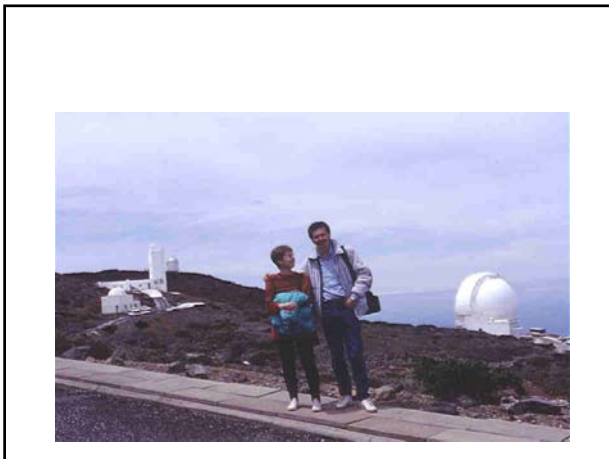
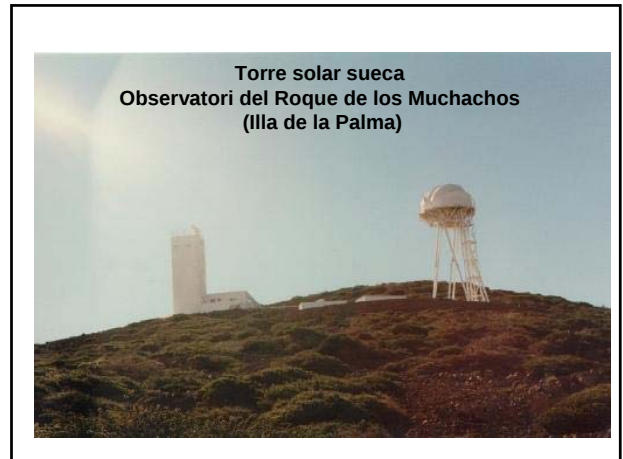


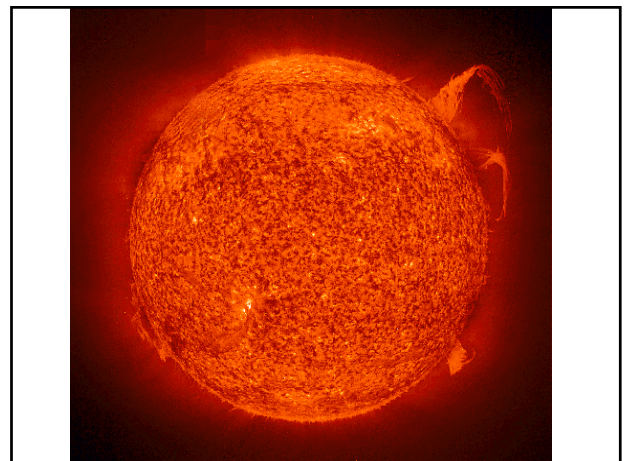
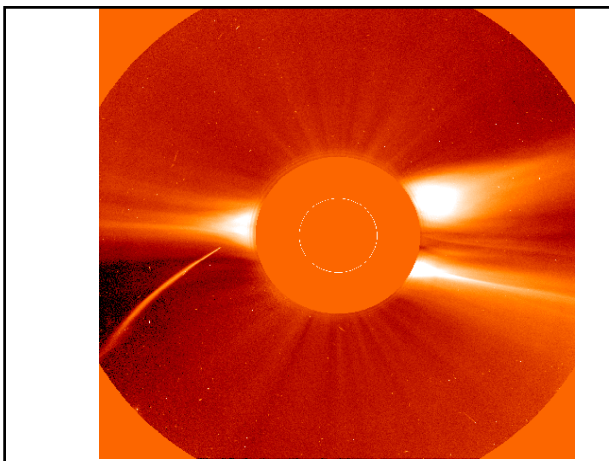
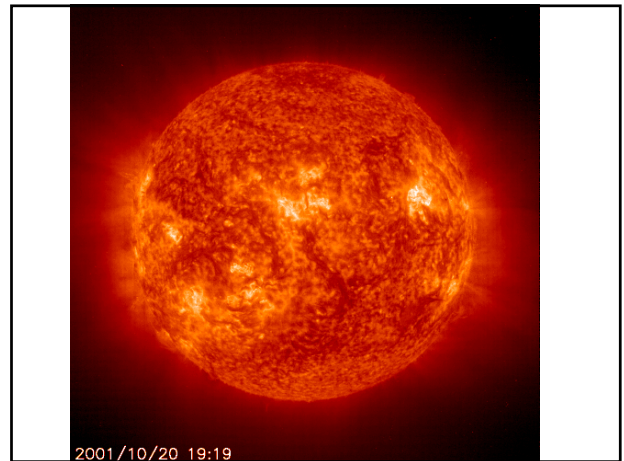
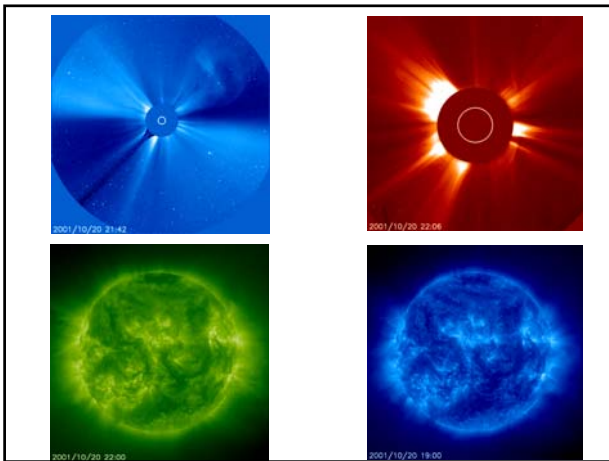
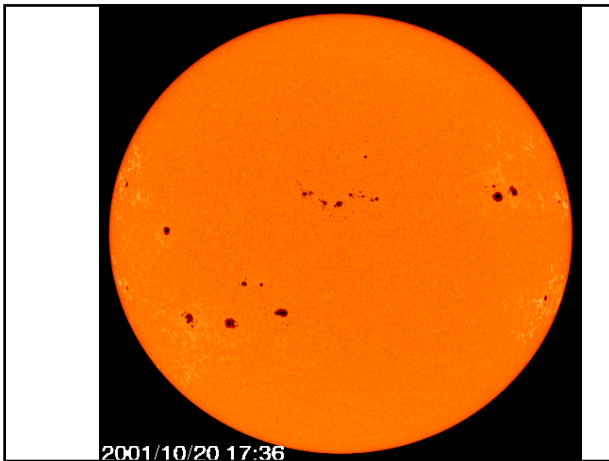


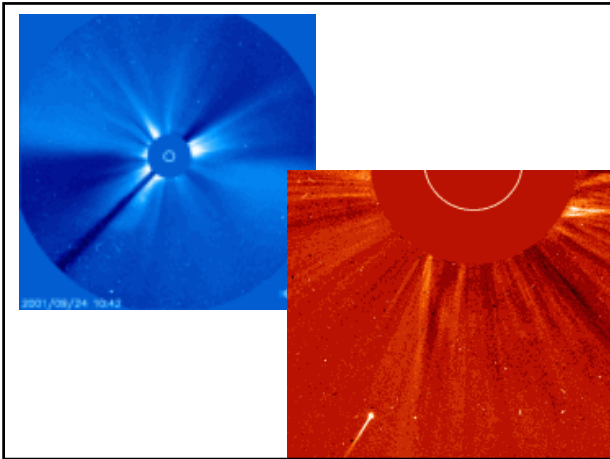






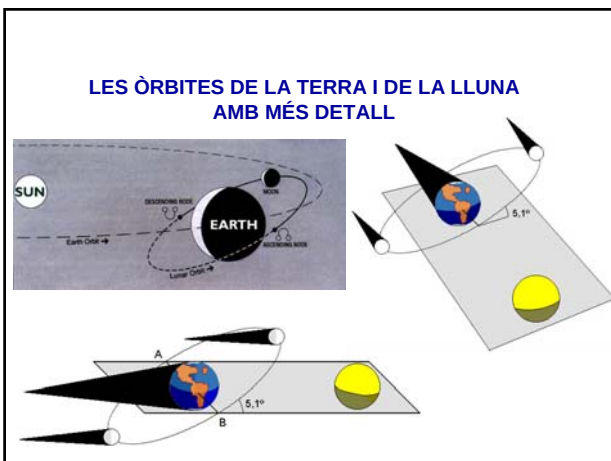
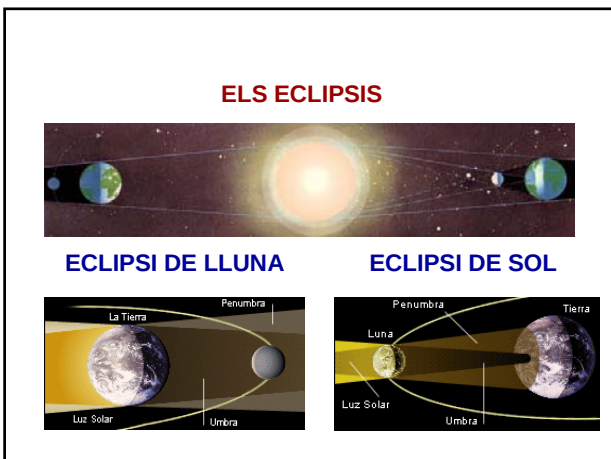
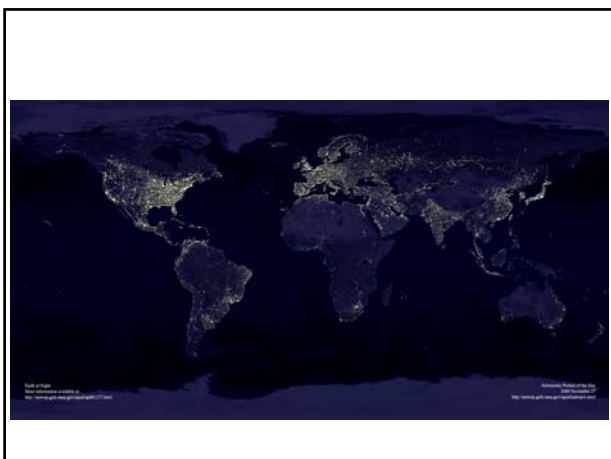




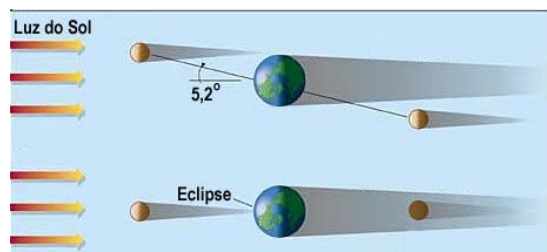


Patrick Cobb

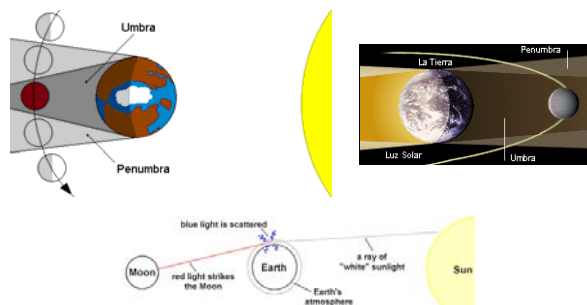




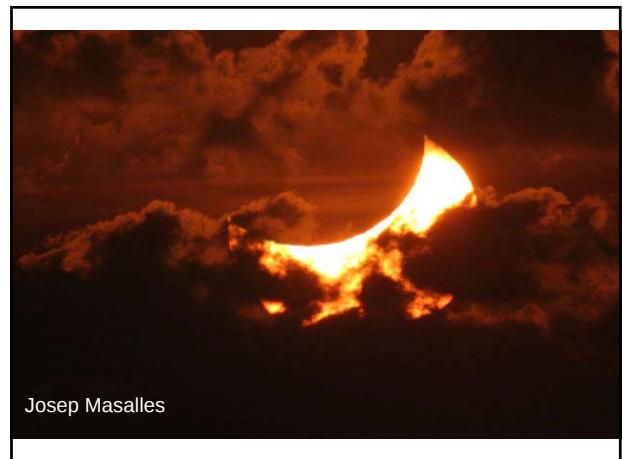
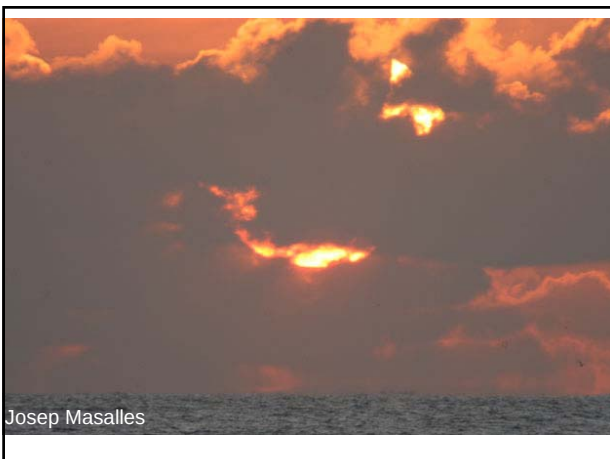
Quan Sol, Lluna i Terra queden alineats
i en el mateix pla (eclíptica)
es produeix un eclipsi.

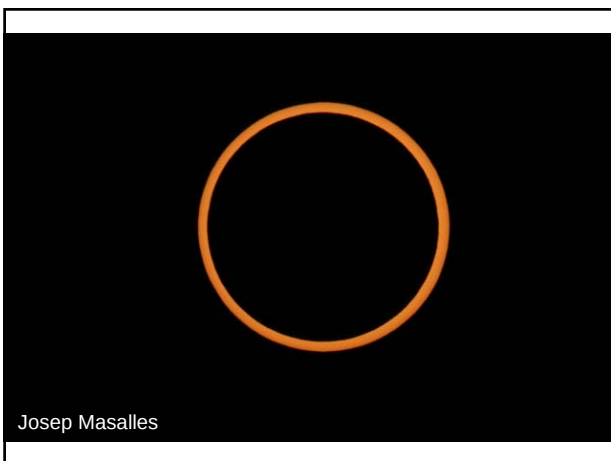


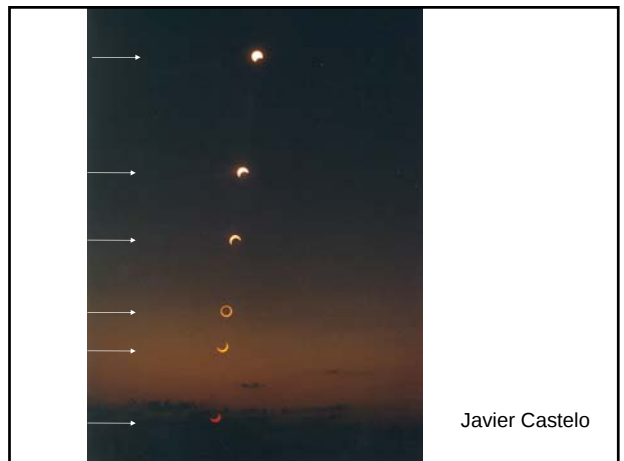
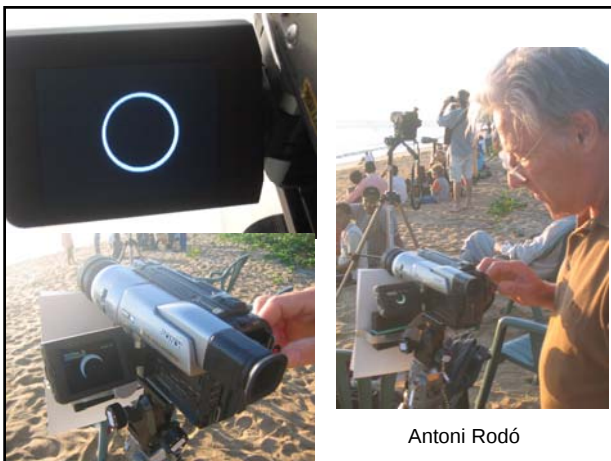
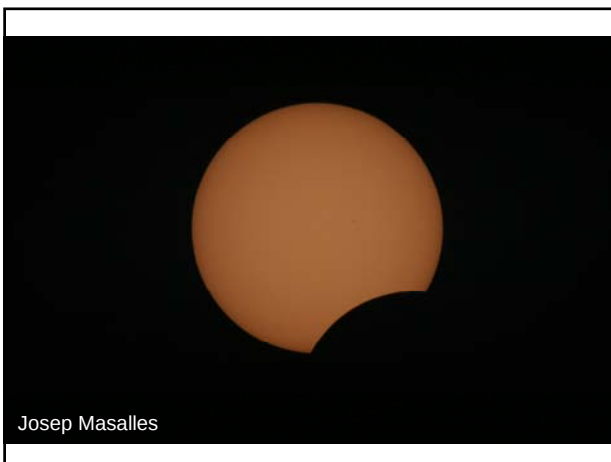
ELS ECLIPSIS DE LLUNA

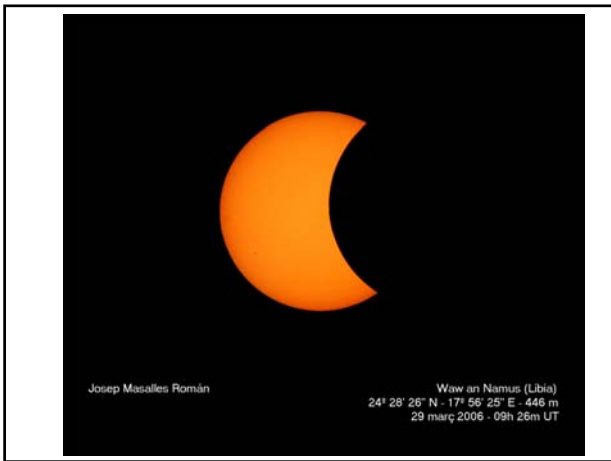


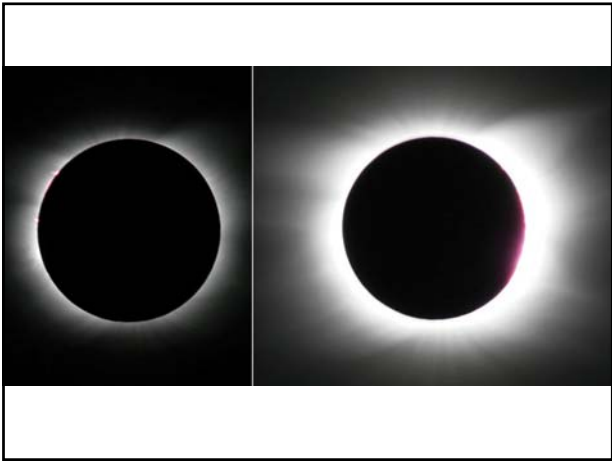
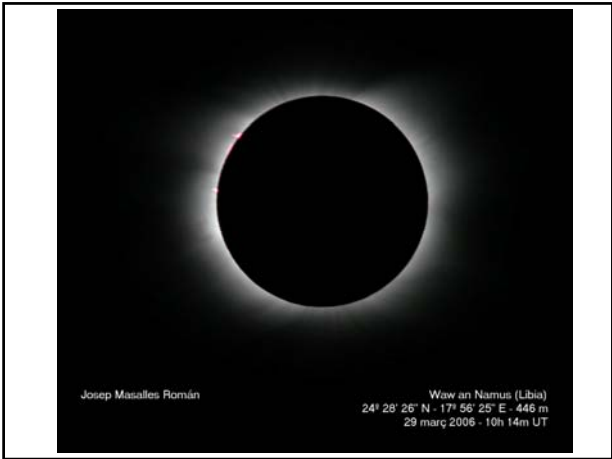


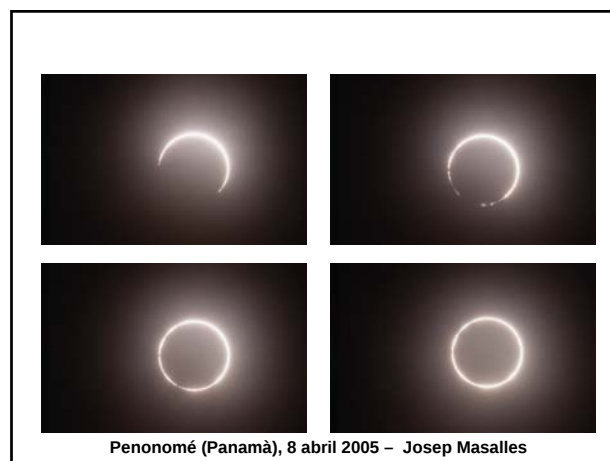
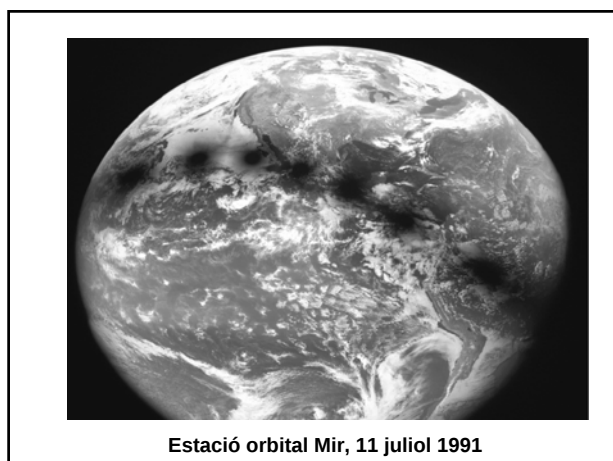
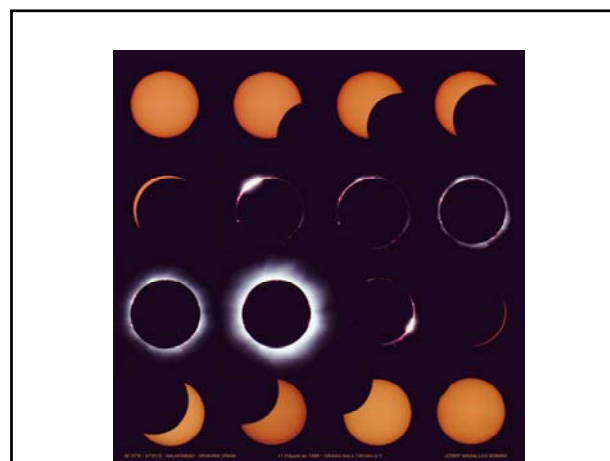
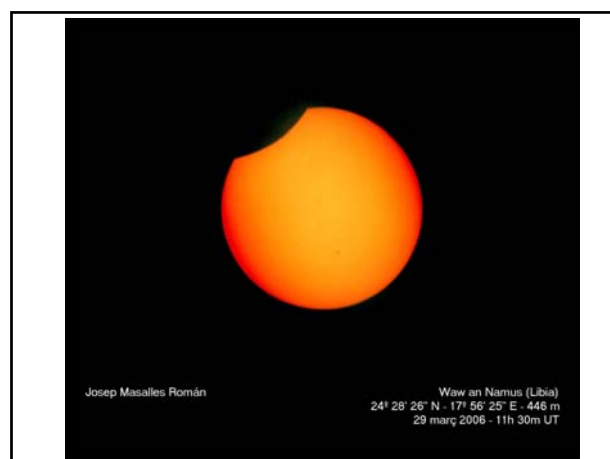


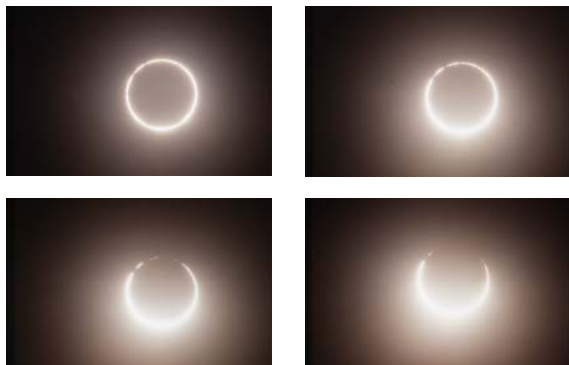








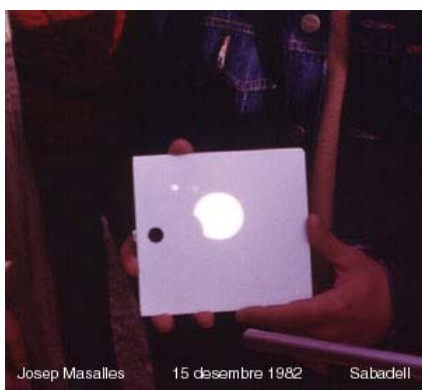




Penonomé (Panamá), 8 abril 2005 – Josep Masalles



Algunes fotografies dels diferents tipus d'eclipsis



Josep Masalles

15 desembre 1982

Sabadell



Josep Masalles

30 març 1984

Barcelona



Josep Masalles
Barcelona
30 Març 1984



Joensuu (Finlàndia), 1990
Josep Masalles



Josep Masalles

10 maig 1994 - Barcelona

Barcelona, 1994
Josep Masalles



Marroc, 1994 - Juanma Bullón



Marroc, 1994 - Josep Portolés



Purple Downs (Austràlia), 2002 - Josep Masalles



Prades del Sol eclipsat al desert australià
Josep Masalles i Jordi

4 desembre 1999 - 9:53:38 h
Prades del Sol eclipsat al desert australià
Josep Masalles i Jordi



Najafabad - Isfahan (Iran), 1999 - Josep Masalles

EL PRIMER ECLIPSI TOTAL DE SOL DEL MIL.LENNI



Eclipsi total de Sol
observat a Kafue
(Zàmbia) el 21 de
juny de 2001



Kafue (Zàmbia)
14°24'14" S - 28°09'20" E - 1095 m
21 juny 2001 - 13h 07m 03s UT

Josep Masalles



Kafue (Zàmbia)

21 de juny de 2001

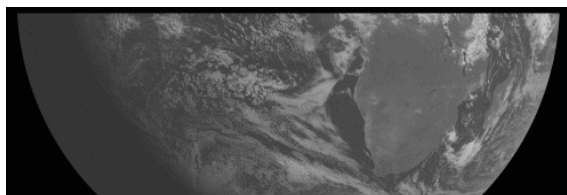
Josep Masalles



Kafue (Zàmbia)

21 de juny de 2001

Josep Masalles



Najafabad - Isfahan (Iran), 1999 - Josep Masalles



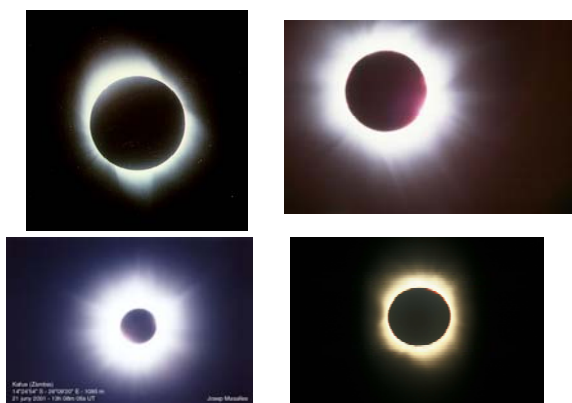
Kafue (Zàmbia), 2001 - Josep Masalles



Kafue (Zàmbia), 2001 - Josep Masalles



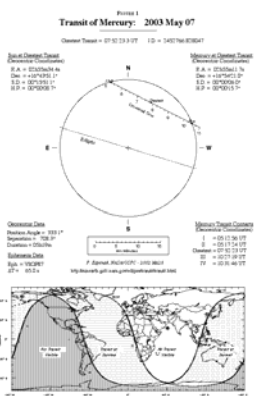
Kafue (Zàmbia), 2001 - Josep Masalles

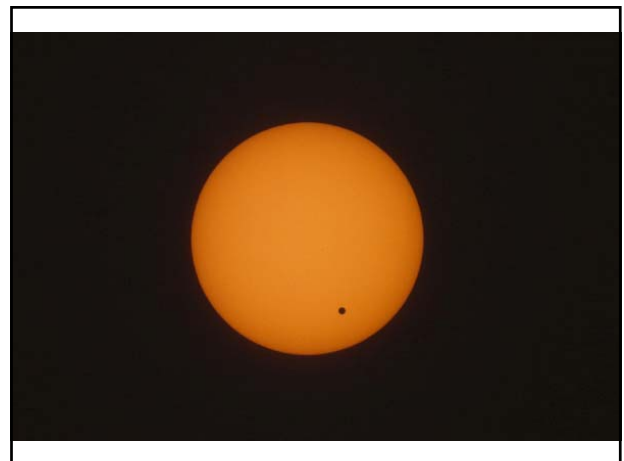
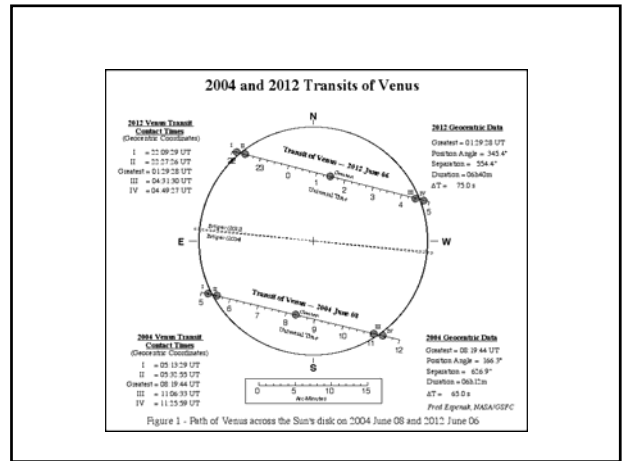
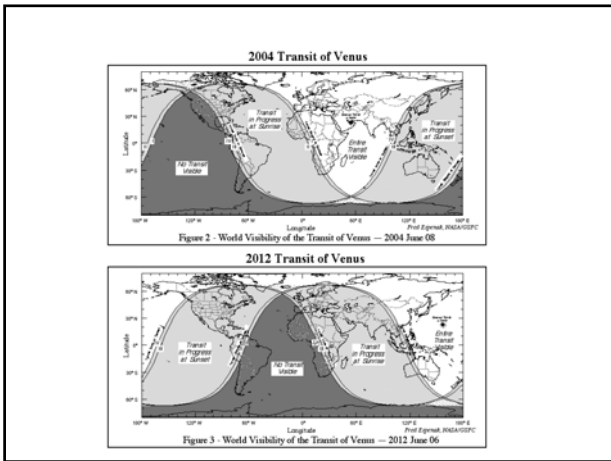
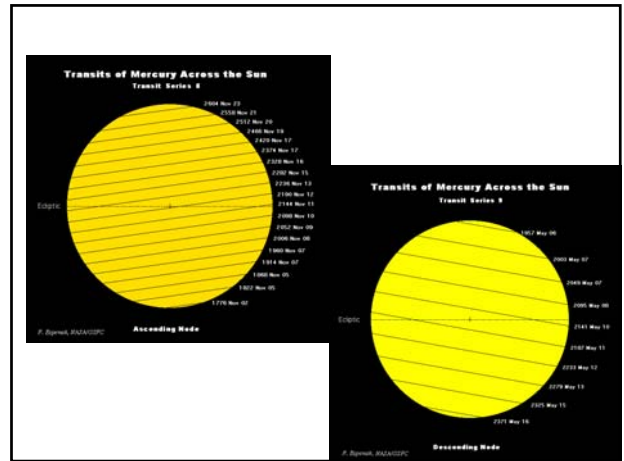


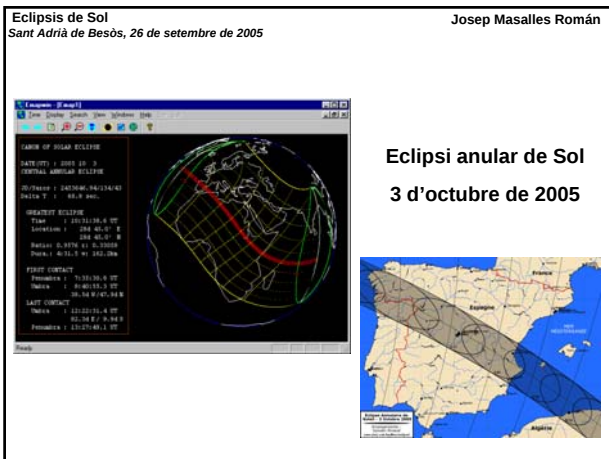
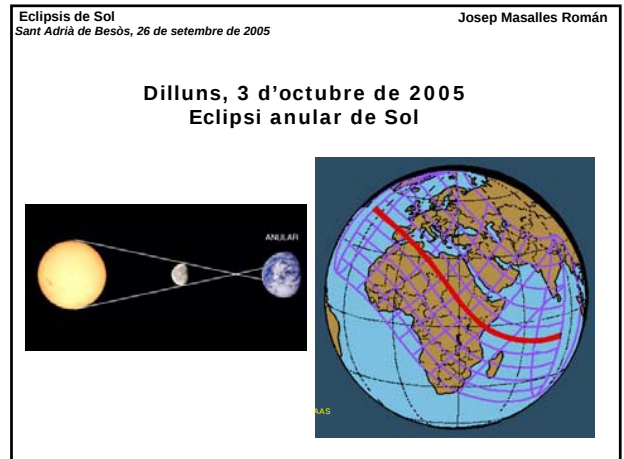
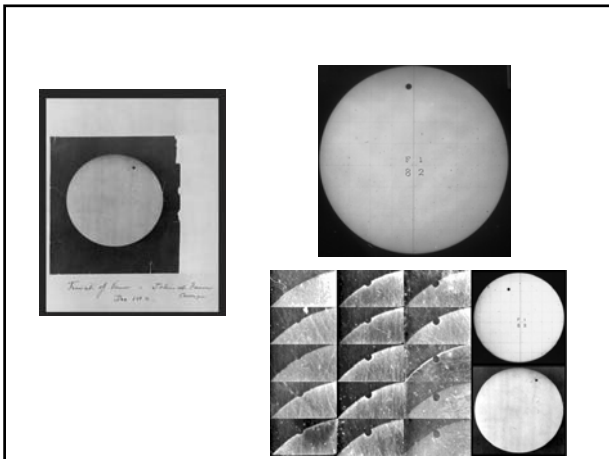
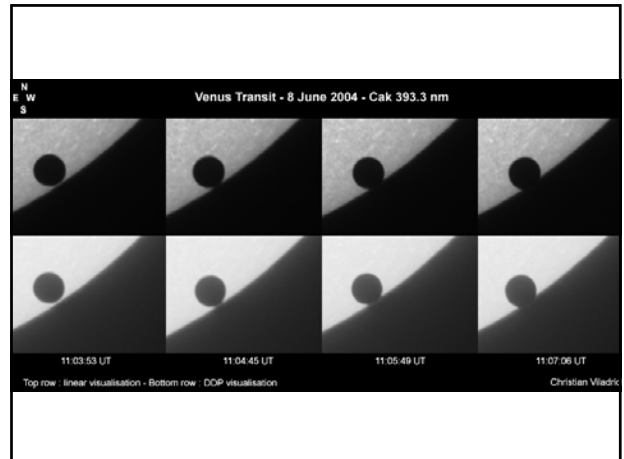
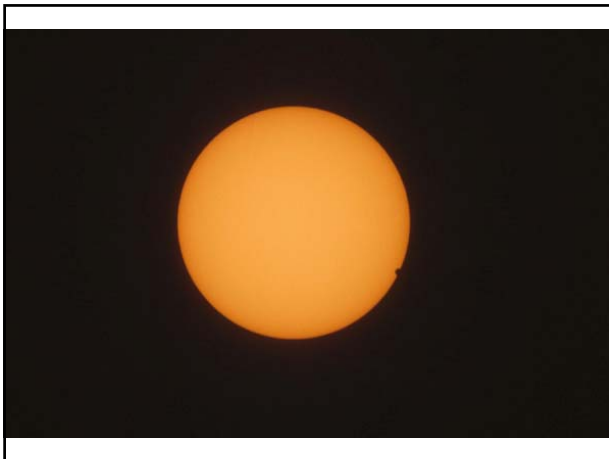
1994, 1999, 2001, 2002 - Josep Masalles

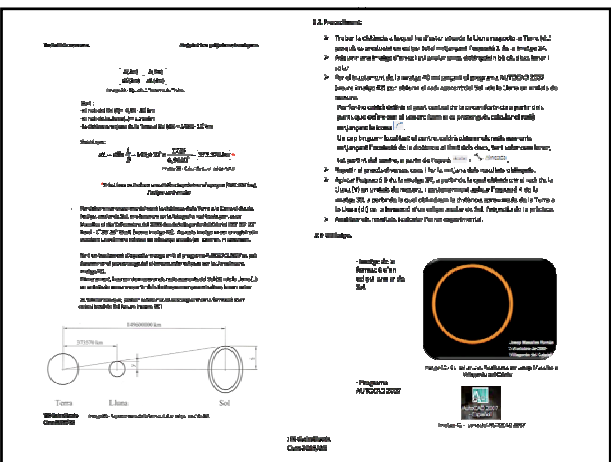


Penonomé (Panamà), 8 abril 2005 – Josep Masalles









Orientació diürna i orientació nocturna
Estudi d'ombres. Gnòmon Vertical
Relloctges de Sol
Observació de la fotosfera del Sol i seguiment de les taques
Observació telescòpica de la Lluna i seguiment de les fases
Observació de les fases de Venus
Observació del moviment aparent de Mart
Observació de Júpiter i els seus satèl·lits
Observació dels anells de Saturn
Eclipsis, trànsits i ocultacions
Observació del cel
Planetes, Cometes, Cúmuls, Nebuloses, Galàxies, etc
Explicacions científiques de l'Univers !
Xarxa d'observatoris escolars

Gràcies per la vostra atenció

