



XXXIX. On the solar eclipse of May 15th, 1836

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given in the Nautical Almanac, which is further corroborated by the observations made at Copenhagen, Kœnigsberg, &c.

In comparing the observations made at places situated on the borders of the Annulus, with the computation according to the elements of the Nautical Almanac, I find a better accord by assuming for latitude correction $-7''.63$, and for correction of the sun's semidiameter $-1''.5$, and for correction of the moon's semidiameter $+0''.5$.

These corrections have been previously applied in the following calculations. B means beginning; BA, beginning of annulus; EA, end of annulus; E, end; d. ($\odot \pm \odot$), difference of sum or difference of semidiameters; d β , of latitude; d π , of parallax.

Places and Observers.	Mean Time of Observation.	Ecliptic Conjunction.	d ($\odot \pm \odot$)	d β	d π
Altona. Schumacher.	B h m s 2 43 50.75	2 46 51.02	+2.1776+0.1137+1.1131		
	E 5 21 23.15	2 46 52.3	-2.1810+0.1523+1.5385		
Apenrade. Hanssen.	B 2 40 36.8	2 45 14.37	+2.1842+0.2045+1.0263		
	BA 4 0 4.8	2 44 52.2	+2.2260+0.4730+1.1672		
	EA 4 4 23.8	2 44 52.8	-2.1834-0.1912+1.5387		
Berlin. Encke.	B 3 2 43.8	3 0 41.3	+2.1751+0.1427+1.2394		
	E 5 37 31.9	3 0 45.1	-2.1820+0.1670+1.5782		
Bern. Treschel.	B 2 37 8.6	2 37 17.63	+2.1962-0.2997+1.3277		
	E 5 16 48.26	2 36 43.36	-2.2468+0.5608+1.5060		
Bremen. Cluver.	B 2 38 7.0	2 42 13.38	+2.1760+0.0787+1.1087		
	E 5 16 56.9	2 42 14.8	-2.1850+0.1998+0.8576		
Bremerhaven. Thulesius.	B 2 37 27.0	2 41 58.7	+2.1783+0.1264+1.0751		
	E 5 15 27.0	2 41 24.17	-2.1821+0.1678+1.5286		
Brussels. Quetelet.	B 2 16 0.5	2 24 35.66	+2.1750-0.0300+1.0779		
	E 4 59 47.3	2 24 33.9	-2.2058+0.3635+1.4712		
Copenhagen. Petersen.	B 2 55 52.8	2 57 28.93	+2.1876+0.2378+1.0605		
	BA 4 15 53.2	2 57 13.8 +1.4532		
	E 5 29 32.9	2 57 11.0	-2.1757+0.0121+1.5802		
Gera. Engelhard and Metz.	E 5 33 43	2 55 23.9	-2.1926+0.2724+1.5600		
Greenwich. Airy.	E 4 39 12.32	2 7 4.62	-2.2067+0.3693+1.4070		
Halifax. Waterhouse.	E 4 27 7.0	1 58 43.9	-2.1914+0.2624+1.384		
Hamburg. Peters.	B 2 44 7.4	2 47 5.7	+2.1776+0.1135+1.1101		
	E 5 21 30.5	2 46 59.5	-2.1810+0.1526+1.5442		
Hamburg. Rumker.	B 2 44 2.2	2 47 0.54	+2.1776+0.1135+1.1101		
	E 5 21 40.5	2 47 8.89	-2.1810+0.1526+1.5390		

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Places and Observers.	Mean Time of Observation.	Ecliptic Conjunction.	$d (\odot \pm \odot)$	$d \beta$	$d \pi$
	h m s				
Hanover. Lahmeyer.	B 2 43 49.04	2 46 6.69	+2.2139+0.4152+0.9811		
	E 5 21 48.73	2 45 56.43	+2.1866+0.2182+1.5304		
Jena. Schröen.	E 5 31 35.0	2 53 28.45	-2.1942+0.2845+1.5501		
London, Fleet-street W. Simms.	B 1 51 13.0	2 6 59.43	+2.1750+0.0430+0.9154		
	E 4 38 47.0	2 6 47.2	-2.2066+0.3685+1.4115		
Louvain. Crahay.	B 2 17 37.3	2 25 47.55	+2.1748-0.0289+0.8620		
	E 5 0 52.6	2 25 33.6	-2.2049+0.3580+1.4748		
Makerston. Sir Thomas Brisbane.	B 1 36 51.2	1 57 17.2	+2.1967+0.3111+0.6287		
	BA 3 1 4.2	1 57 19.1	+2.2710+0.6532+0.8621		
	EA 3 5 11.6	1 57 5.5	-2.1870-0.2284+1.7380		
	E 4 23 0.6	1 57 4.0	-2.1809+0.1515+1.3888		
Neumühfen. Zahrtmann.	B 2 43 54.4	2 46 54.4	+2.1775+0.1128+1.1103		
	E 5 21 20.6	2 46 49.9	-2.1810+0.1530+1.5475		
Neu Strelitz. Lorenz and Becker.	B 3 0 28.0	2 59 31.5	+2.1764+0.0879+1.1987		
	E 3 54 58.	2 59 17.7	-2.1799+0.1367+1.5722		
Rostock. Karsten.	B 2 54 43.1	2 55 31.8	+2.1788+0.1349+1.1418		
	BA 4 14 19.7	2 55 39.6	+2.4635-1.1568+2.1523		
	EA 4 17 58.2	2 55 35.3	-2.6073+1.4378+0.7263		
	E 5 29 58.2	2 55 28.0	-2.1401+0.0997+1.5704		
Shooter's Hill. Simms and Gilby.	B 1 51 52.1	2 7 26.46	+2.1750+0.0402+0.9229		
	E 4 39 20.1	2 7 26.7	-2.2080+0.3768+1.4150		
Stettin. Dancke.	B 3 7 51.7	3 5 21.0	+2.1782+0.1256+1.2064		
	E 5 41 16.3	3 5 21.9	-2.1782+0.1061+1.5925		
Stralsund. Steinort.	B 2 59 44.2	3 0 3.34	+2.1803-0.1576+1.3025		
	BA 4 18 7.0	2 59 24.9	+2.1891-0.2469+1.6207		
	EA 4 22 26.6	2 59 28.2	-2.2254+0.4705+1.2856		
	E 5 33 49.2	2 59 25.8	-2.1785+0.1111+1.5605		
Strassburg. Herrens- scheider.	B 2 36 25.14	2 38 1.37	+2.1830-0.1911+1.2692		
	E 5 16 44.95	2 37 48.6	-2.2232+0.4575+1.5100		
Tondern. Petersen.	B 2 37 15.1	2 42 34.9	+2.1839+0.2009+1.0156		
	BA 3 57 26.88	2 42 34.68	+2.1793+0.1357+1.2584		
	EA 4 1 48.1	2 42 34.2	-2.1797+0.1421+1.3404		
	E 5 14 51.12	2 42 31.3	-2.1775+0.0903+1.4744		
Wurzburg. Schren.	B 2 47 4.0	2 46 54.4	+2.1773-0.1071+1.2704		
Vienna. Littrow and Hallasckka.	E 5 34 37.1	3 12 31.85	-2.2050+0.3590+1.5910		
Zeitz.	E 5 32 40	2 54 37.6	-2.1911+0.2602+1.5598		

N.B. Should it be in your power to procure me any observations made of this eclipse in England or America, you would greatly oblige thereby

Your obedient Servant,

Hamburg, Oct. 5, 1836.

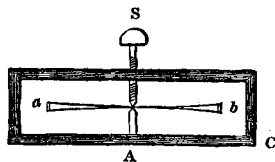
C. RÜMKEK.

XL. *A simple Mode of exhibiting Newton's Rings, and a Mode of exhibiting the Fixed Lines in the Spectrum. By the Rev. W. RITCHIE, LL.D., F.R.S., Professor of Natural Philosophy in University College, and in the Royal Institution of Great Britain.**

1. **T**O exhibit Newton's rings a lens of a long focal distance is generally considered necessary, which is both expensive and difficult to obtain. In a lecture which I delivered nearly two years ago in the Royal Institution, I showed a very simple mode of performing the experiment, which, I have no doubt, will be acceptable to many of your readers. Take two circular pieces of thin plate glass (Dutch plate) about six or eight inches diameter.

Gild a ring of one of the plates about a quarter of an inch broad from the circumference of the circle with gold-leaf, place the plates over each other, and by means of a rectangular frame of iron or brass and a screw, bring the plates to touch in the centre. Let *a b* represent the glass plates, *B C* the rectangular frame, *S* a screw, and *A* a projecting point.

By means of the screw the plates will be brought to touch in the middle, whilst they are separated at the circumference by a single gold-leaf. When this is held so that light from the sky or a lamp falls obliquely on the plates so as to be reflected by the under plate to the eye, the rings will present themselves in circles round the dark spot in the centre.



2. Procure a prism of good flint glass, having one of its angles containing 70 or 80 degrees. Place two thin slips of metal with smooth edges in an opening in a window-shutter, through which the white light of the clouds is admitted. View this *film* of light through the *large* angle of the prism kept close to the eye, and the principal fixed lines as well as many of the others will be distinctly visible. If a bottle containing nitrous gas be placed opposite the opening, the lines will become more strongly marked and more numerous. With one

* Communicated by the Author.