

Kaca Tingal Surya: Pitedah Panggunaan



Grahana Matahari Total

Senen, 21 Agustus 2017



TERMS AND CONDITIONS FOR USE OF SOLAR VIEWER

Please read these Instructions for Use carefully before using the Solar Viewer. Your purchase and use of the Solar Viewer constitutes your agreement to these terms and conditions. Failure to follow these Instructions for Use may result in serious personal injury, including permanent eye damage. If you do not understand these Instructions or cannot follow them diligently and completely, then you should not look at the Sun at any time, with or without a Solar Viewer.

The term "Solar Viewer" refers to the special cardboard-and-polymer optical products, marked "SAFE FOR DIRECT SOLAR VIEWING", manufactured by Rainbow Symphony of Reseda CA, and sold by Eclipse2017.org for the purpose of viewing the Sun during the solar eclipse of August 21, 2017, by or under the direct supervision of a person 18 years of age or above and in accordance with these Instructions for Use.

Observing the Sun directly, without the benefit of eye protection provided by the Solar Viewer, will likely result in serious personal injury, up to and including permanent eye damage and blindness. When these Instructions for Use are followed completely and precisely, the undamaged and unmodified Solar Viewer has been proven to be safe and effective in allowing direct, short-term, viewing of the Sun. If these Instructions for Use are not followed, or if damaged or modified Solar Viewers are used, permanent eye injury could result.

You should never look directly at the Sun, with or without the aid of the Solar Viewer, if you have any temporary or permanent medical or other condition which either (1) prevents your use of the Solar Viewer according to these Instructions for Use, or (2) which predisposes you to an increased or special risk of incurring, worsening, or contributing to the effects of any optical or other medical, health, or other condition, by looking or attempting to look at the Sun.

You should never attempt to perform any other activity (such as driving or walking) while using the Solar Viewer.

You agree that if you let others use the Solar Viewer, you will provide each such user with a copy of these Instructions for Use and will make sure such user reads and understands the Instructions for Use before using the Solar Viewer.

By using the Solar Viewer to view the Sun, you agree with the following:

- (a) you understand these Instructions for Use completely;
- (b) you understand and accept the risks associated with improper use of the Solar Viewer;
- (c) you accept full responsibility for, and assume all risks associated with, the act of viewing the Sun, with or without the use of the Solar Viewer; and
- (d) the Solar Viewer is fragile and any damage to it or modification of it will render it immediately and permanently unusable for its intended purpose.

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Grahana Matahari Total - 21 Agustus 2017

Sugeng rawuh ing Amerika Serikat!

Kita ngraos bingah ugi kinormatan amargi panjenengan sampun milih tindak dhumateng negari kita kagem mriksani grahana matahari total, lan kita penging sedaya tiyang saged mriksani prastawa ingkang boten umum punika kanthi aman!

*Kita nyawisaken pitedah punika wonten ing basa Jawi supados panjenengan rumaos nyaman. Versi basa Inggris saking pitedah, piwarah, saran lan sanggahan (pitedah) punika, minangka sumber informasi ingkang resmi lan jangkep saha minangka cecepengan gunanipun Kaca Tingal Surya ingkang pas lan leres nalika mriksani bagaskara kanthi langsung. Instruksi punika cumawis ing <http://tinyurl.com/viewer-instructions>, lan panjenengan kedah maos, mangertosi ugi nindakaken tata caranipun ngagem Kaca Tingal Surya. **Gagal numindakaken pitedah saged nyebabaken cidra ingkang saestu.***

Para astronom nemtokaken bilih grahana 21 Agustus 2017 punika kados “grahana total”, nanging menawi panjenengan badhe mriksani kanthi fase total, panjenengan kedah wonten ing jalur darat ingkang marginipun alit saha medal Amerika Serikat (dipun sebat “jalur totalitas grahana”). Menawi panjenengan boten wonten ing jalur punika, panjenengan namung badhe mriksani grahana sebageyan! Pramila, wigati sanget kagem mangertosi punapa panjenengan saestu wonten ing jalur totalitas grahana, lan metode ingkang saged panjenengan gunakanen badhe dipun jlentrehaken kanthi cekak aos.



Jalur Totalitas Grahana

PITEDAH CEKAK

PITEDAH PEPAK

Tembung “Kaca tingal surya”, kados ingkang dipun gunakanen wonten seratan punika, dipun ginakaken kagem makili “Solar Viewer” kasebat wonten ing sanggahan Basa Inggris ingkang dipun serat wonten bageyan sanesipun ing pitedah punika.

Migunakake Kaca Tingal Surya ingkang panjenengan lampahi kagem mriksani bagaskara inggih punika prajanjen ingkang resmi. Panjenengan saestu kedah leres lan kanthi pepak numindakaken sedaya pitudhuh ugi piwarah kaserat wonten ing pitedah punika, sakwekdalipun panjenengan gunakanen Kaca Tingal Surya kagem mriksani bagaskara. Menawi panjenengan boten mangertos pitedah, utawi menawi boten saged nglampahi sedaya pitedah kanthi pepak lan leres, utawi boten setuju kaliyan ketemtuhan punika, mila panjenengan dipun dhawuhi lan dipun anjuraken boten pareng pisan-pisan nyobi mriksani bagaskara.

PITEDAH CEKAK MIGUNAKAKEN KACA TINGAL SURYA

Pitedhah cekak punika dipun ringkes saking [aosipun pitedah wonten ing basa Jawi](#), ingkang kedah panjenengan waos, mangertosi lan dhareki sedaya tata cara gunakaken Kaca Tingal Surya kagem mriksani grahana








- 1) Dipun padosi wonten pundi papan panjenengan ing <http://tinyurl.com/find-times>, lan padosi punapa badhe kedadosan grahana total ing papan panjenengan, ugi ancer-ancer wekdalipun fase grahana sebageyan lan (menawi wonten) fase grahana total ing papan kasebat.
- 2) Grahana total punika setunggaling prastawa ingkang spektakuler sanget, nanging panjenengan namung saged mriksani grahana kanthi wetah menawi wonten ing “jalur totalitas grahana” – ingkang ambanipun namung antawis setunggal atus mil kemawon. Menawi grahana total boten badhe katingal saking papan ingkang sampun panjenengan rancang kagem mriksani punika, kita nganjuraken sanget panjenengan enggal-enggal gantos papan ingkang kalebet ing jalur totalitas grahana!
- 3) Kanthi gunakaken Kaca Tingal Surya kagem mriksani grahana inggih punika, lensa Kaca Tingal Surya dipun paringaken langsung ing sak inggilipun paningalan penjenengan, supados lensa kasebat saestu jagi paningalan saking bagaskara kanthi langsung.
- 4) Kados pundi pigunan Kaca Tingal Surya kagem mriksani bagaskara:
 - a. Menawi **BADHE BOTEN WONTEN** grahana total ing papan panjenengan, lajeng panjenengan tetep nggunakaken Kaca Tingal Surya kagem mriksani saben fase grahana. **RESIKO PANINGAL PANJENENGAN SAGED RISAK KANTHI PERMANEN) MENAWI PANINGAL PANJENENGAN BOTEN DIPUNJAGI KANTHI TREP NALIKA MRIKSANI BAGASKARA!**
 - b. Menawi **BADHE WONTEN** grahana total ing papan panjenengan, mila nalika mriksani grahana total panjenengan kedah gunakaken Kaca Tingal Surya ing bageyan sumunaring bagaskara, sinaosa namung bageyan ingang katingal punika alit sanget. **RESIKO PANINGAL PANJENENGAN SAGED RISAK KANTHI PERMANEN MENAWI PANINGAL PANJENENGAN BOTEN DIPUNJAGI KANTHI TREP NALIKA MRIKSANI BAGASKARA!**
 - i. **Nanging, NAMUNG ing wekdal ingkang cekak saking fase total**, inggih punika nalika boten wonten bageyan sumunaring bagaskara ingkang saged dipun pirsani babar pisan, panjenengan kedah mriksani kanthi langsung grahana total kanthi boten ngagem Kaca Tingal Surya.
 - ii. Kasunyatanipun, menawi panjenengan nyobi migunakaken Kaca Tingal Surya kagem mriksani bagaskara nalika fase total, panjenengan boten badhe saged mriksani punapa-punapa.
 - iii. Panjenengan **KEDAH enggal-enggal migunakaken Kaca Tingal Surya malih nalika fase total sampun cekap**, lan katingal malih bageyan sumunaring bagaskara.
- 5) Ing tembung sanesipun,

NALIKA MRIKSANI SABEN BAGEYAN BUNDERANING BAGASKARA, PANJENENGAN KEDAH MIGUNAKAKEN KACA TINGAL SURYA KAGEM MRIKSANI BAGASKARA!

PITEDAH PEPAK PIGUNAN KACA TINGAL SURYA

Kaping setunggal, wonten saperangan terminologi ingkang kedah panjenengan mangertosi!

Saben grahana ugi saben papan ing donya, gadhah saperangan nami ingkang dipun sebat kagem wekdal-wekdal saking prastawa wigati tertemtu. Punika dipun tepang dados:

<i>Nami prastawa</i>	<i>Katrangan prastawa</i>	<i>Kados punapa wujudipun (kagem Grahana Total)</i>	<i>Kados punapa wujudipun (kagem Grahana Sebageyan)</i>
C1	Wiwitan grahana sebageyan		
C2	Wiwitan grahana total		** Boten dados! **
Pertengahan grahana	Fase pertengahan grahana		
C3	Pungkasaning grahana total		** Boten dados! **
C4	Pungkasaning grahana sebageyan		

1) PITEDAH UMUM MIGUNAKAKEN KACA TINGAL SURYA

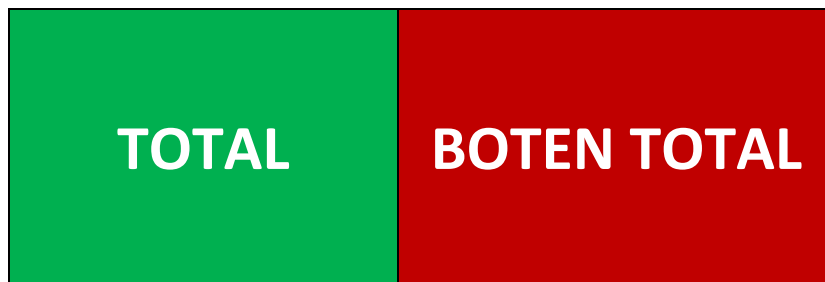
- 1) [menawi wonten] dipun bikak bungkus Kaca Tingal Surya kanthi ngatos-atos.
- 2) Simpen Kaca Tingal Surya wonten panggenanipun menawi boten dipunagem.
- 3) Priksa Kaca Tingal Surya sakderengipun dipunagem; menawi wonten lensanipun ingkang risak utawi mengkerut ing bageyan pundi kemawon, lajeng mangga dipun kethok lan dipun risak Kaca Tingal Surya kasebat, lan [gantos kaliyan ingkang boten risak](#).
- 4) Menawi lensa Kaca tingal surya risak ing bageyan pundi kemawon, ampun dipun ginakaken kaca tingal kasebat kagem mriksani bagaskara.
- 5) Boten pareng nguculi bahan lensa saking Kaca Tingal Surya, lan ampun gunakaken lensa ingkang ucul kagem mriksani bagaskara.
- 6) Poisis ingkang leres, lensa ingkang boten risak saking Kaca Tingal Surya badhe saged ngalangi tingkat bebayan saking cahya ingkang katingal, ugi sinar UV lan sumunaring bagaskara sanesipun ingkang bebayani. Pramila aman sanget gunakaken Kaca Tingal Surya, miturut piwarah ingkang dipun sebat ing Pitedah punika, sakwedal-wekdal panjenengan mriksani bagaskara. Boten wonten “sumunaring grahana bagaskara” khusus ingkang damel wujudipun bagaskara langkung utawi kirang bebayani nalika grahana.
- 7) **Panjenengan kedah migunakaken Kaca Tingal Surya, kanthi tata cara ingkang sampun dipun jlentrehaken ing mriki, kagem mriksani bagaskara kanthi aman wonten pundi kemawon bageyan bunderan sumunaring bagaskara ingkang katingal. Punika dipun trapaken ing wekdal-wekdal kontak grahana (inggih punika “C2” lan “C3” kados kasebat ing nginggil) ingkang sampun dipun rekam saking sumber punapa kemawon.**
- 8) Boten pareng ngagem Kaca Tingal Surya sesarengan kaliyan teleskop, teropong, kamera, lensa, kaca utawi alat optik sanesipun, piranti utawi obyek ingkang saged ngirimaken utawi mantulaken sumunaring bagaskara (“Piranti Optik”).
- 9) Boten pareng ngarahaken Piranti Optik punapa kemawon pinuju utawi ing bagaskara, ugi boten pareng mriksani wujudipun bagaskara kanthi langsung ngagem Piranti Optik ingkang dipun tujukaken dhateng bagaskara, utawi kanthi cara punapa kemawon ingkang saged ngempalaken, damel fokus, utawi ngarahaken sumunaring bagaskara.
- 10) Kaca Tingal Surya punika boten pikantuk dipun agem kaliyan kewan, utawi sinten kemawon ingkang radi boten waras pikiranipun, boten saged maos, ngertos lan njangkepi syarat-syaratipun gunakaken Kaca Tingal Surya kanthi aman, utawi kanthi sah nampi tanggelpun kagem konsekuensi saking tumindakipun.
- 11) Lampahipun ngagem Kaca Tingal Surya:
Cepeng Kaca Tingal Surya antawisipun paningalan lan bagaskara, lajeng mangga dipun priksani lumantar lensa Kaca Tingal Surya ingkang boten risak pinuju bagaskara, kedah dipun jagi supados lensa Kaca Tingal Surya saestu trep antawisipun paningal lan bagaskara ing saben wekdal. Kagem Kaca Tingal Surya ingkang wujudipun karton, karton kasebat saged dipun tekuk-tekuk dados Kaca Tingal Surya ingkang arupi kados kaca tingal biasa. Boten pareng mriksani bagaskara kanthi langsung nalika boten ing wekdal grahana total (inggih punika, wekdal antawis C2 lan C3 ingkang saged panjenengan priksani ing grafik wonten andhap, menawi babagan kasebat kadosan kangge papan mriksani panjenengan), kajawi panjenengan mriksani langsung lumantar material lensa Kaca Tingal Surya ingkang boten risak.
- 12) Boten pareng ngagem material utawi barang punapa kemawon, kajawi lensa saking Kaca Tingal Surya ingkang sampun dipun pasang ing panggenanipun asli saking pabrik, minangka piranti kagem ngindhungi paningal nalika dipun cobo mriksani bagaskara.
- 13) Menawi panjenengan badhe nyuwun pirsababagan pitedah punika, dipun sumanggakaken ngubungi Eclipse2017.org ing <http://tinyurl.com/viewer-questions>.



2) NYINAONI WEKDAL PRASTAWA GRAHANA TERTEMU KAGEM PAPAN PANJENENGAN

Adhedhasar informasi ingkang cumawis ing <http://tinyurl.com/find-times> kagem papan panjenengan, mangga dipun jangkapi wedharan ing andhap:

Kagem papan kula, grahananipun:



(dipun bunderi salah setunggal)

Menawi kedadosan grahana **TOTAL** ing papan panjenengan, mangga lampahi pitedah ingkang dipun serat wonten

“GRAHANA
TOTAL
ING PAPAN KULA”

[bageyan ing andhap punika:](#)

Menawi kedadosan grahana **BOTEN TOTAL** ing papan panjenengan, mangga lampahi pitedah ingkang dipun serat wonten















“GRAHANA
BOTEN TOTAL
ING PAPAN KULA”

[bageyan ing ngandhap punika:](#)

** GRAHANA **TOTAL** ING PAPAN KULA **

Panjenengan wonten ing jalur totalitas grahana, lan badhe ngalami prastawa ingkang boten saben wekdal enten ugi endah peni punika! Wigati sanget kagem panjenengan supados saged nemtokaken wekdalipun prastawa grahana total wonten ing papan panjenengan. Panjenengan badhe saged numindakaken punika kanthi ngrujuk wekdal-wekdal ingkang sampun panjenengan mangertosi ing andhap punika, lan ugi amargi boten enten bageyan sumunaring bagaskara ingkang katingal nalika fase total.

- Adhedasar informasi ingkang cumawis dening <http://tinyurl.com/find-times> kagem papan panjenengan, mangga dipun serat kinten-kinten wekdal kagem saben fase grahana wonten ing ngandhap punika (dipun pesthekaken panjenengan [ngatur wekdal](#) miturut zona wekdal panjenengan!):

Saderengipun C1	* Boten wonten grahana *				Panjenengan KEDAH gunakaken Kaca Tingal Surya
C1	Fase sebageyan dipun wiwiti ing:				Panjenengan KEDAH gunakaken Kaca Tingal Surya
C2	Fase total dipun wiwiti ing:				Sesampunipun C2 , panjenengan saged mriksani ngagem paningalan langsung
Pertengahan grahana	Kedadosan ing:				Panjenengan saged mriksani ngagem paningalan langsung!
C3	Fase total pungkasan ing:				Panjenengan KEDAH gunakaken Kaca Tingal Surya malih
C4	Fase sebageyan pungkasan ing:				Panjenengan KEDAH gunakaken Kaca Tingal Surya
Sesampunipun C4	* Boten wonten grahana *				Panjenengan KEDAH gunakaken Kaca Tingal Surya

- Sanadyan panjenengan wonten ing jalur totalitas grahana, panjenengan KEDAH tasih gunakaken Kaca Tingal Surya kagem mriksani bagaskara ing saben wekdal saderengipun C2 utawi sesampunipun C3, nalika grahana boten total.

- 3) Panjenengan saged langsung mriksani bagaskara ngagem paningal kanthi langsung (boten mawi gunakaken Kaca Tingal Surya) NAMUNG:
- Menawi kedadosan grahana total ing papan panjenengan (panjenengan wonten ing “jalur”), LAN
 - Sakwetawis wekdal-wekdal grahana total (kinten-kinten wekdal saking C2 dumugi C3 kagem papan panjenengan ingkang sampun dipun serat ing nginggil), LAN
 - Nalika bunderan bagaskara ingkang sumunar sampun SEDAYA katutup dening Wulan**

Wekdal prastawa grahana total ingkang leres saged werni-werni gumantung papan panjenengan ingkang leres, lan panjenengan kedah ngidentifikasi lan nyerat ancer-ancer wekdal grahana sakderengipun. Wekdal ingkang panjenengan serat wonten ing nginggil inggih punika ancer-ancer!

- Sepisan malih, uwal saking wekdal-wekdal ingkang sampun dipun serat ing nginggil, utawi dipun kempalaken saking sumber sanesipun, **panjenengan kedah tansah gunakaken Kaca Tingal Surya nalika bageyan bagaskara pundi kemawon ingkang padhang katingal.**
- Pitedah punika dipun jlentrehaken kaliyan gambar tambahan kagem pitulungan supados panjenengan gampil mangertos.

Panjenengan kedah maos, mangertos, lan nurut kaliyan wedharan ing ngandhap punika:











KULA KEDAH NUMINDAKAKEN **SEDAYA PITEDAH TATA CARA
MIGUNAKAKEN KACA TINGAL SURYA, SUPADOS SAGED
NGAGEM PUNIKA KANTHI AMAN.**

**MENAWI WONTEN BAGEYAN BUNDERAN
BAGASKARA INKGANG PADHANG KATINGAL,
KULA **KEDAH** GINAKAKEN KACA TINGAL
SURYA NALIKA NINGALI SRENGENGE.**

**** GRAHANA *BOTEN TOTAL* ING PAPAN KULA ****

Panjenengan boten wonten ing jalur totalitas grahana, lan awit saking punika panjenengan boten bakal ngraosaken grahana total ingkang sae sanget. (Kita nganjuraken panjenengan gantos papan wonten ing jalur totalitas grahana supados saged ngraosaken pengalaman ingkang boten umum punika!)

- 1) Adhedasar informasi ingkang cumawis wonten <http://tinyurl.com/find-times> kagem papan panjenengan, mangga dipun serat petangan wekdal kagem saben fase grahana wonten ing ngandhap punika (dipun pesthekaken panjenengan [ngatur wekdal](#) miturut zona wekdal panjenengan!):

Sakderengipun C1	* Boten wonten grahana *				Panjenengan KEDAH ginakaken Kaca Tingal Surya
C1	Fase sebageyan dipun wiwiti ing:				Panjenengan KEDAH gunakaken Kaca Tingal Surya
Pertengahan grahana	Kedadosan ing:				Panjenengan KEDAH gunakaken Kaca Tingal Surya
C4	Fase sebageyan pungkas ing:				Panjenengan KEDAH gunakaken Kaca Tingal Surya
Sesampunipun C4	* Boten wonten grahana *				Panjenengan KEDAH gunakaken Kaca Tingal Surya

(Dipun serat menawi boten wonten wekdal C2 lan C3, amargi grahana boten total ing papan panjenengan!)

- 2) Amargi grahana boten total wonten ing papan panjenengan, mila panjenengan kedah **TANSAH** gunakaken Kaca Tingal Surya kagem mriksani bagaskara. Sepisan malih, kita nganjuraken panjenengan tindak dumateng papan ingkang wonten ing jalur totalitas. Dipun pesthekaken panjenengan ngasta Kaca Tingal Surya, supados saged kanthi aman mriksani fase gerhana sebageyan.
- 3) Pitedah punika dipun jlentrehaken kaliyan gambar tambahan kagem biyantu supados panjenengan gampil mangertos.

Panjenengan kedah maos, mangertos, lan nurut kaliyan wedharan ing ngandhap punika:

KULA KEDAH DHEREK **SEDAYA PITEDAH TATA CARA GUNAKAKEN KACA TINGAL SURYA, SUPADOS SAGED NGAGEM PUNIKA KANTHI AMAN.**

KULA KEDAH **TANSAH GUNAKAKEN KACA TINGAL SURYA NALIKA MRIKSANI BAGASKARA.**