

Le logiciel Sky Tools Pro

Présentation des grandes lignes

D'un logiciel de Préparation d'une séance d'imagerie

En visuel ou en photo

Principales fonctions

- **Recherche d'objets à visualiser et imager grâce à :**
 - ➔ Base de données très complète :
 - De 4 millions à plus de 520 millions d'étoiles → Magnitude 20
 - 1 million de galaxies
 - 37000 systèmes multiples....
 - Et Planètes, satellites, comètes... astéroïdes..
 - ➔ Filtres très sophistiqués pour caractériser les recherches d'objets
- **Donne en fonction du setup et de la période la liste des objets à observer ou photographier dans les meilleures conditions**
- **Calculateur d'évènements planétaires**
 - Calculs des éphémérides et tous les évènements planétaires
- **Calculateur de prise de vue**
 - ➔ Calcule en fonction du setup (Optique+CCD+ filtre+binning) , des conditions météo (temp et Hygrométrie) , du site , les temps de poses et nombre de poses pour obtenir le meilleur rapport S/B

Préparation de l'observation ou imagerie

- Un outil de recherche très complet

Choix de
L'objet

Database Power Search Tool

Stars | Galactic Deep Sky | Extragalactic | Minor Planets | Comets

Databases to Search
Galaxies
Galaxy Groups
Quasars

☐ Supplemental Deep Sky

Catalog Designations
☐ All ☒ Selected only

Common Name
Messier
NGC
IC
Arp
Markarian
MCG
UGC
ESO
PGC/LEDA

Common Data Limits
Magnitude \geq None \leq None
Size \geq 3.00 ' \leq 300.00'

☒ Light travel time \geq None \leq None Myr
☐ Z (redshift) \geq None \leq None

Galaxy Limits
Class: ∇ Any
Orientation ∇ Any
SBr: \leq None mag/arcsec²
Interacting with 0 or more
V(r) \geq None \leq None km/s e (b/a) \leq None

Quasar Type include BL Lac

Galaxy Group galaxy count \geq None

Mode ☐ ☒ Reset

Visibility Filters
Apply optimum conditions
Texas Star Party
Default Observer
Televue 101

Visual Detection Difficulty
Ignore difficulty

Conditions (for specific date)
Above or Below Horizon
Day or Night
☐ If visible after 00:00
☐ If visible before 00:00

Search Constellations
☐ Any ☒ Selected

And Ari CVn Cen Com
Ant Aur CMa Cep CrA
Aps Boo CMi Cet CrB
Aqr Cae Cap Cha Crv
Aql Cam Car Cir Crt
Ara Cnc Cas Col Cru

Select All Clear All

Search Radius
☐ Within 001 degrees
of Nothing

Include Objects With Log Entry
☒ Any ☐ Logged ☐ Unlogged

Search Help

Choix
du « coin
De ciel »

résultats

Object ID	Con	RA	Dec	Mag	Light Time	Type
M 110	And	00h41	+41°47	8.9	3 Myrs	Elliptical
M 32	And	00h44	+40°57	8.9	3 Myrs	Elliptical
Andromeda Galaxy	And	00h44	+41°22	4.3	3 Myrs	Spiral b
Mirach's Ghost	And	01h10	+35°48	11.2	11 Myrs	Elliptical
NGC 891	And	02h24	+42°25	10.9	---	Spiral b
NGC 7640	And	23h23	+40°56	11.6	---	Barred Spiral c

Mémorisation des
résultats

Destination Observing List Group
Auto Generated Lists

Destination Observing List

Search Complete: 6 objects found



- Particulièrement intéressant si vous vous voulez sortir des « sentiers battus »
- La recherche se fait par type d'objets

Stars Galactic Deep Sky Extragalactic Minor Planets Comets

Databases to Search

☐ Multiple Stars Only

☐ Variable Stars Only

☐ Supplemental Only

Reference Data Limits

Color \geq None \leq None Distance \leq None ly

Proper Motion \geq None "/yr

| V(r) \geq None km/s Coord. \leq Any

Stars Galactic Deep Sky Extragalactic Minor Planets Comets

Databases to Search

Galaxies

Galaxy Groups

Quasars

☐ Supplemental Deep Sky

Common Data Limits

Magnitude \geq None \leq None

Size \geq None ' \leq None '

☒ Light travel time \geq None \leq None Myr

☐ Z (redshift) \geq None \leq None

Catalog Designations

Stars Galactic Deep Sky Extragalactic Minor Planets Comets

Databases to Search

☐ Historical

☐ Supplemental/current

Orbit Type

☒ All

☐ Periodic comets

☐ Non-periodic comets

☐ Include lost comets

Specific Night Only

Mag \geq None \leq None

Distance \leq None AU

Elongation \geq None °

Perihelion Limits

Perihelion within 60 days

of None

Abs. Mag (h)

\geq None

\leq None

Periodic Comet Orbit Limits

Period \geq None \leq None yr

Aphelion distance \geq None \leq None AU

General Orbit Limits

Inclination \geq None ° \leq None °

Eccentricity (e) \geq None \leq None

Perihelion distance \geq None \leq None AU

Stars Galactic Deep Sky Extragalactic Minor Planets Comets

Databases to Search

Planetary Nebulae

Diffuse Nebulae

Dark Nebulae

Open Clusters

Globular Clusters

Common Data Limits

Magnitude \geq None \leq None

Size \geq None ' \leq None '

Distance \geq None \leq None ly

Stars Galactic Deep Sky Extragalactic Minor Planets Comets

Databases to Search

☐ Primary Reference

☐ Supplemental

Specific Night Only

Mag \geq None \leq None

Distance \leq None AU

Motion \geq None "/min

Orbit Limits

i \geq None ° \leq None °

P \geq None \leq None yr

e \geq None \leq None

Ap \geq None \leq None AU

q \geq None \leq None AU

Orbit Class

☐ All ☒ Select

Inferior Objects

☐ Vulcanoid

☐ Mercury crosser

☐ Venus crosser

Near Earth Objects (NEOs)

☐ Apollo ☐ Amor

☐ Aten

☐ Interior Earth Object

Superior Objects

☐ Mars crosser

☐ Inner Belt Object

☐ Main Belt Object

☐ Outer Belt Object

Trojan

Damodoid

Centuar

Distant Objects

☐ Scattered Disk Object

☐ Trans-Neptunian Object (TNO)

☐ Oort Cloud Object

☐ Plutoid

Un exemple sur les Galaxies

Database Power Search Tool

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- Common Name
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Magnitude \geq None \leq None

Size \geq None \leq None

☒ Light travel time \geq None \leq None Myr

☐ Z (redshift) \geq None \leq None

Galaxy Limits

Class: ∇ Any

Orientation: ∇ Any

SBr: \leq None Any

Interacting v

V(r) \geq None

Quasar Type

Galaxy Group

Object ID

Search Constellations

☒ Any ☐ Selected

And	Ari	CVn	Cen	Com
Ant	Aur	CMa	Cep	CrA
Aps	Boo	CMi	Cet	CrB
Aqr	Cae	Cap	Cha	Crv
Aql	Cam	Car	Cir	Crt
Ara	Cnc	Cas	Col	Cru

Select All Clear All

Radius: 001 degrees

Objects With Log Entry

Logged ☐ Unlogged

Help

Type

Destination Observing List Group

Auto Generated Lists ∇ New

Destination Observing List

∇ New

Add to List Select All Unselect All

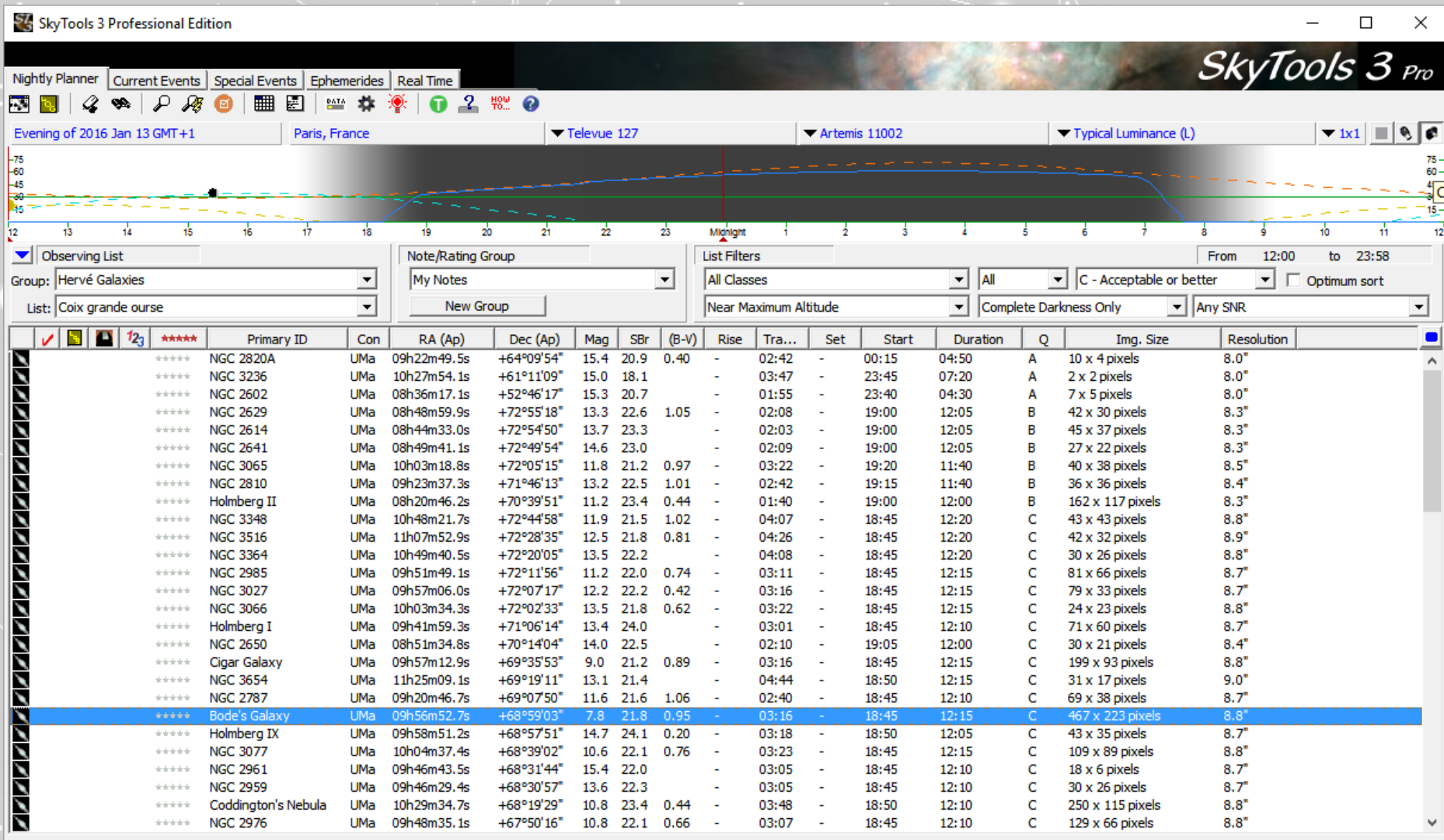
type

Choix du
Catalogue

Classe

Orientation

Ecran visualisant différents paramètres avec graphe de visibilité de l'objet



Le meilleur moment !!

Meilleure période dans l'année

Object Information

Andromeda Galaxy

☒ Galaxy

R.A.: 00h42m44.3s Dec.: +41°16'07"(2000)

Galactic lon: +121°10' Galactic lat: -21°34'

in Andromeda

Also known as

M 31, NGC 224, MCG 7-2-16, UGC 454, PGC 2557

Magnitude: 4.30 B

Size: 2.6°x 1.1°

Comments

Class: Spiral b
Hubble Type: Sb
Orientation: Nearly edge on
Position Angle: 35°
One supernova as of 1983.
Status: known galaxy

Catalog Data

V(r): -309.0 km/sec
Distance: 2.6 Mly
B-V: 0.92
U-B: 0.50
Mean Surface Br. 22.5 Mag/arcsec²

Images

Links

Observing Lists

Visual Difficulty

Chart Numbers

Visual Synopsis

Notes

NightBar

YearBar

Apparent Data

Local Time: 22:00 Year: 2015

Best months: Jan, Sep-Dec

As of 2015 Nov 6 20:50 GMT+1
For Paris, France
Televue 101
Default Observer

▼ Action Menu

Meilleur moment dans la nuit

Object Information

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Apparent Data

Evening of 2015 Nov 6 GMT+1

Sunset 17:23, Twilight ends 19:11, Twilight begins 05:58, Sunrise 07:46
Moon rise 03:14, Moon set 15:18, Waning Crescent Moon.
Completely dark from 19:11 to 03:14.

As of 2015 Nov 6 20:50 GMT+1
For Paris, France
Televue 101
Default Observer

▼ Action Menu

Exemple d'éphémérides pour les phénomènes des satellites de jupiter

SkyTools 3 Professional Edition

Nightly Planner | Current Events | Special Events | Ephemerides | Real Time

Events for Paris, France Show ☐ All Events ☒ Visible Events Only Clear

▼ Events

Night	Event
2016 Jan 14	Ganymede Western Elongation
2016 Jan 15	Callisto Western Elongation
2016 Jan 15	Ganymede Eclipsed by Jupiter
2016 Jan 15	Ganymede Occulted by Jupiter
2016 Jan 15	Io Eastern Elongation
2016 Jan 16	Io Western Elongation
2016 Jan 17	Io Eastern Elongation
2016 Jan 17	Ganymede Eastern Elongation
2016 Jan 17	Europa Shadow Transit
2016 Jan 17	Europa Transit
2016 Jan 18	Io Western Elongation
2016 Jan 18	Callisto Eclipsed by Jupiter
2016 Jan 18	Europa Western Elongation
2016 Jan 19	Io Eastern Elongation
2016 Jan 19	Europa Eclipsed by Jupiter
2016 Jan 19	Europa Occulted by Jupiter

General | Two Bodies | Satellite Elongations | Satellite Events

Events

☒ Transit ☒ Shadow Transit

☒ Eclipse ☒ Occultation

For these satellites of Jupiter

☒ Io

☒ Europa

☒ Ganymede

☒ Callisto

Acceptable viewing conditions

Near Maximum Altitude

Day or Night

Report only if

☐ Visible After 18:00

☐ Visible Before 06:00

Starting at

2016 January 15 07h00m

Over a period of

7 Days

Run Help

Local Date/Time	Description	Object	Object	Alt	Dark %	Vis
2016 Jan 18 08:03	Transit ingress	Europa	Jupiter	28°	50	
2016 Jan 18 09:25	Mid Transit	Europa	Jupiter	15°	0	

0 new events found



Exemple d'éphémérides pour les phénomènes des satellites de jupiter

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▼ **Events**

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2016 Jan 17	Europa Shadow Transit
2016 Jan 17	Europa Transit
2016 Jan 18	Io Western Elongation
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General | Two Bodies | Satellite Elongations | **Satellite Events**

Events
☒ Transit ☒ Shadow Transit
☒ Eclipse ☒ Occultation

For these satellites of Jupiter
☒ Io
☒ Europa
☒ Ganymede
☒ Callisto

Acceptable viewing conditions
 Near Maximum Altitude
 Day or Night

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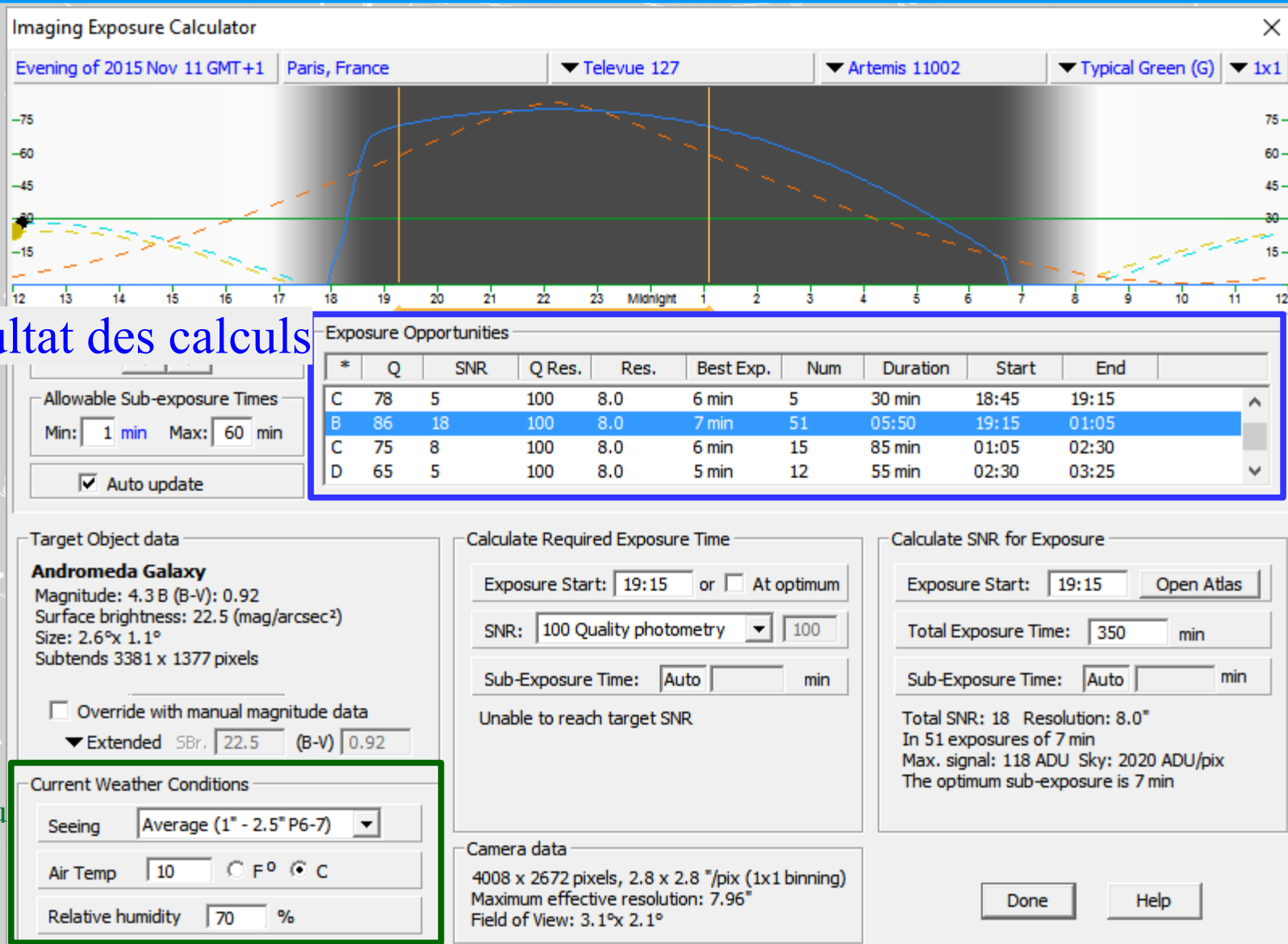
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0 new events found



Calculateur de temps de pose

Résultat des calculs



Conditions du site



Les plus et les moins

- +++ très complet
- +++ base de données
- ++ Doc complète
- ++ maintenu
- - payant (mais reste accessible)
- - en anglais
- - au début un peu compliqué (pour moi) de « rentrer dedans »

Différentes versions 1/2

<i>Edition</i>	Starter	Standard	Pro
Level	For the novice backyard visual observer with binoculars or a telescope up to 4.5-inches (120 mm) in aperture	For the visual observer with a telescope larger than 4.5-inches (120 mm)	For the experienced visual observer who observes from a dark site and anyone who does astro-imaging
Available as	Download / Free Trial	Download / CD	Download / CD + DVD
Stars	4 million stars to magnitude 12.5	16 million stars down to 15th magnitude in some areas	522 million stars as faint as 20th magnitude
Real Time Telescope Control	Not available	Available as an add-on	Included
Visual Nightly Planner	Yes	Yes	Yes
Custom Finder Charts for Binoculars and Telescopes	Yes	Yes	Yes
Nightly Observing List Generator	Yes	Yes	Yes
Naked Eye and Overhead Sky Charts	Yes	Yes	Yes
Auto-download of current data for comets, novae, and supernovae	Limited to brighter objects	Yes	Yes
Interactive Atlas		Yes	Yes
Visual Context Viewer (movable eyepiece simulation attached to Atlas)		Yes	Yes

Différentes versions 2/2

Observing Logbook		Yes	Yes
Sky Events Planner (eclipses, appulses, Jupiter satellite events, meteor showers, etc)		Yes	Yes
Database Power Search		Yes	<i>Enhanced version</i>
Ephemeris Generator		Yes	Yes
Add notes, images, and web links to objects		Yes	Yes
Download and display DSS images on charts		Yes	Includes additional image types
Double-star splittability ratings and search functions		Yes	Yes
Thumbnail Viewer (displays an array of charts for many objects)		Yes	Yes
Imaging Session Planner			Yes
Exposure Calculator / Imaging Laboratory			Yes
Imaging Context Viewer			Yes
GPS Location Tool			Yes
Minor Planet and Comet Search			Yes

Les prix

SkyTools 3 Starter Edition (\$39.95) [Buy Now](#)



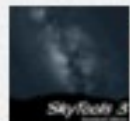
For the novice backyard observer with binoculars or a telescope up to 4.5 inches (120 mm) in aperture. This edition is simple enough for anyone to use and comes with a beginners observing handbook (pdf). ([More Info](#))

SkyTools 3 Standard Edition (\$99.95) [Buy Now](#)



For the basic visual observer with a moderate sized telescope up to ~14 inches (360 mm). ([More Info](#))

SkyTools 3 Standard Edition + Real Time Add-on Bundle (\$124.90) [Buy Now](#)



Includes the Real Time tool, which is designed for use at the telescope and adds telescope control. Real Time can also be separately purchased as an add-on after purchasing the Standard Edition. ([More Info](#))

SkyTools 3 Professional Edition (\$179.95) [Buy Now](#)



For the astronomical imager, the experienced visual observer who observes from dark a site, or any serious observer who wants the very best in observing software. This edition has advanced features and a much larger stellar database with stars down to 20th magnitude. The Real Time Add-on is included. ([More Info](#))

Fin