Sight Planning Data Valid for Date, Time & What DR Position?

Use "Nav Bodies" Worksheet to specify DR Position, Date & Time

Date & Zone Time @ DR Position

DR L deg. min.

DR Lo deg. min.

Date & MeanTime @ Greenwich: 16-Oct-18 22:30:00

Select Bodies from Dropdown List associated with Yellow Cells in Column D

GHA = 129° 51.0'
Dec = 18° 21.4' S
Hc = 09° 49.8'

1st Body Zn = 235°

JUPITER

Valid Zn Ranges for 2nd Body: 280 → 325 → 10 & 100 → 145 → 190

GHA = 046° 24.6'
Dec = 19° 46.5' S
Hc = 24° 30.5'

2nd Body Zn = 154°

MARS

Select 1st Body & use a value of Zn near one of the values shown in the Gold Cells (G9 & K9) as a guide for selecting the 2nd Body of a Two Body Fix

Crossing Angle of LOPs From Body 1 & Body 2 is 81 deg.

GHA = 283° 22.0'
Dec = 46° 00.7' N
Hc = 01° 42.0'

1st Body Zn = 021°

CAPELLA

Valid Zn Ranges for 2nd Body: 51 → 81 → 111 → 141 → 171

Valid Zn Ranges for 3rd Body: 231 → 261 → 291 → 321 → 351

Select 1st Body & use values of Zn near the values shown in the Gold cells (I19 & G22) as a guide for selecting the 2nd & 3rd Bodies of a Three Body Fix

Bodies flagged as "Valid for Sight Taking" sorted by Zn value

GHA = 046° 24.6'
Dec = 19° 46.5' S
Hc = 24° 30.5'

2nd Body Zn = 154°

MARS

Azimuth Spread 255 deg.

Set conditions required for flagging visible Stars & planets as valid for sight taking.

GHA = 148° 45.9'
Dec = 19° 05.4' N
Hc = 22° 10.2'

3rd Body Zn = 276°

ARCTURUS

Specify Visual Magnitude of Stars to flag as valid for sight taking: 1

Enter Data Into Yellow Cells

Minimum Altitude of a Body: 0 deg.

Maximum Altitude of a Body: 90 deg.

Upper Limit on the Sun's Altitude: 0 deg.

Lower Limit on the Sun's Altitude: -9 deg.

Crossing Angle of LOPs From Body 1 & Body 2 is 47 deg.

Crossing Angle of LOPs From Body 1 & Body 3 is 75 deg.

Crossing Angle of LOPs From Body 2 & Body 3 is 58 deg.

Sun's Altitude -5.4 deg.

Zn (deg.)	HO 249 Vol. I Star	Names of Bodies Flagged as Valid for Sight Taking	Hc (deg.)	Hc (min.)	Visual Magnitude
21	Yes	CAPELLA	1	42.0	0.1
67	Yes	DENEB	75	15.2	1.3
135	Yes	FOMALHAUT	3	32.7	1.2
154	-	MARS	24	30.5	-1.6
167	Yes	ALTAIR	57	2.9	0.8
173	-	MOON	27	57.9	-6.5
197	-	SATURN	24	3.9	1.5
219	Yes	ANTARES	11	14.7	1.0
235	-	JUPITER	9	49.8	-1.8
258	Yes	VEGA	80	48.0	0.0
276	Yes	ARCTURUS	22	10.2	0.0

The Geocentric Lunar Distance to SATURN is 021° 40.6'

GHA = 088° 42.8'
Dec = 22° 46.2' S
Hc = 24° 03.9'
Zn = 197°

A Sun ~ Moon 2 Body Fix may be possible around the dates of First Quarter & Last Quarter.

Waxing Gibbous Moon

Moon's Altitude 28.0 deg.

New Moon 9-Oct-18

First Quarter 16-Oct-18

Δ Moon Cycle 0

Moon's Age 7 Days

Full Moon 24-Oct-18

Last Quarter 31-Oct-18

Moon's Visual Magnitude ≈ -7