Messier 81 & 82

Bode's Galaxy
& The Cigar Galaxy

Messier 81

NGC 3031

Type: Spiral Galaxy

Constellation: Ursa Major

RA: 09h55m33.2s

Dec: 69º03’55”

Magnitude: 6.94

Dimensions: 26.9’ x 14.1’

Distance: 12 million light-years

Discovered By: Johann Elert Bode, 1774

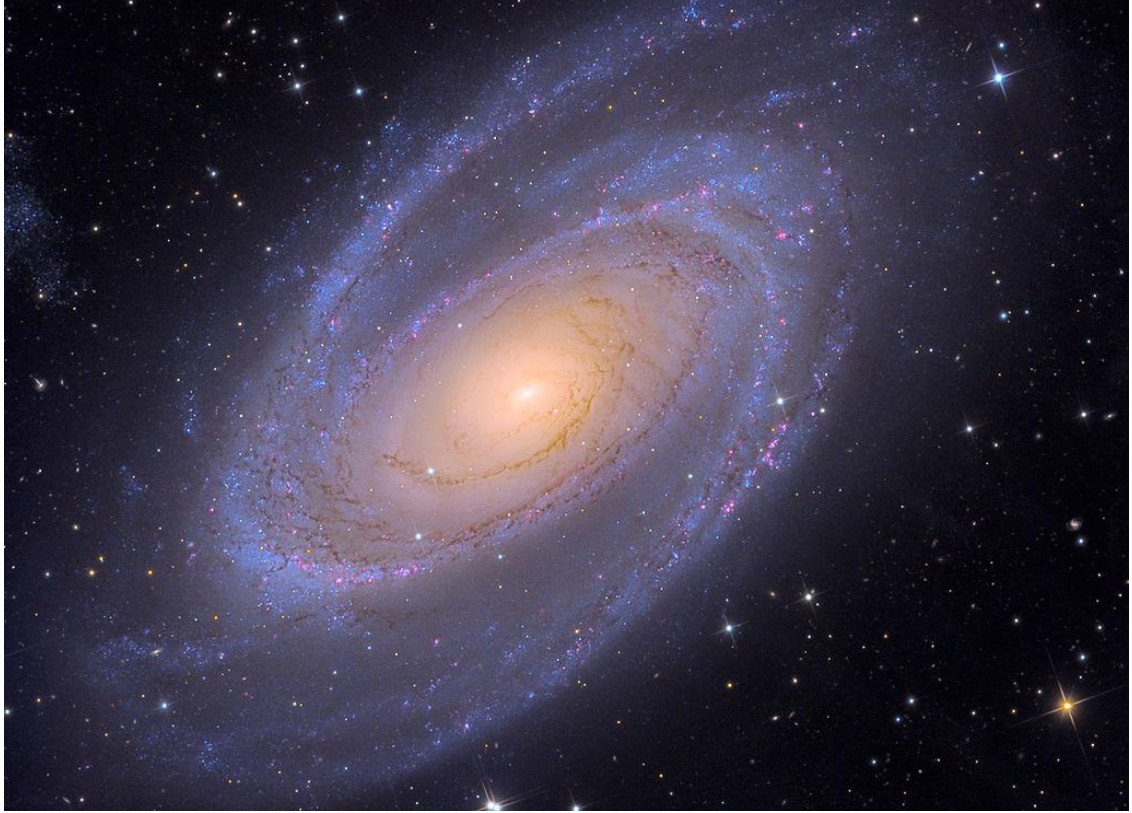


Photo: Hubble Space Telescope

Messier 81

A classic example of a grand-design spiral, this nearby galaxy is one of the most well-studied galaxies in the sky.

It is almost as large as the Milky Way and harbours an active ‘LINER’ supermassive black hole.

It has around 210 globular clusters, and may be the source of one of the mysterious repeating fast radio bursts (FRBs).

Photo: NASA
Photo in Infrared light

Messier 82

NGC 3034

Type: Irregular Starburst Galaxy

Constellation: Ursa Major

RA: 09h55m52.2s

Dec: +69º40’47”

Magnitude: 8.41

Dimensions: 11.2’ x 4.3’

Distance: 12 million light-years

Discovered By: Johann Elert Bode, 1774

Photo: Hubble Space Telescope

Messier 82

This galaxy has about five times the total luminosity of the Milky Way, despite being smaller in size, due to its very active ongoing star formation processes - it is producing stars at 10x the normal rate for spiral galaxies!

M82 is a starburst galaxy thanks to its tidal interactions with its larger neighbour M81. This also means that M82 is an active site of supernovae due to the large proportion of young massive stars!

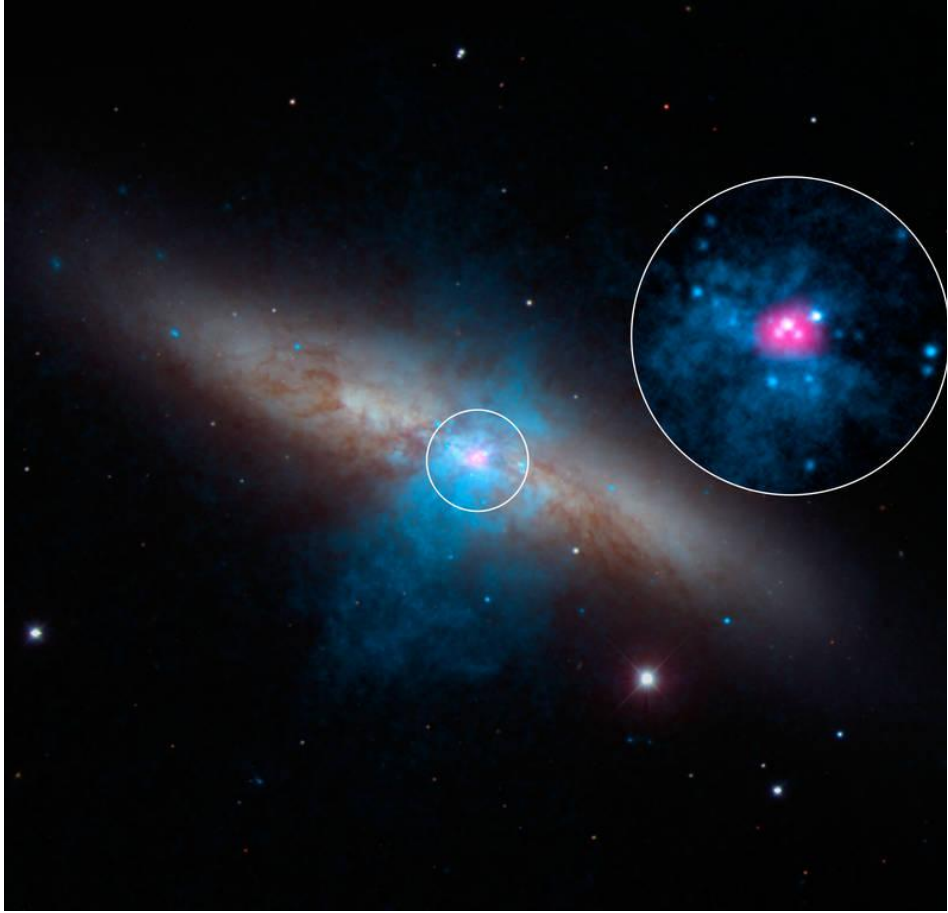


Photo: Hubble Space Telescope, Chandra X-ray Observatory and NuStar X-ray Observatory

Finding Messier 81 & 82 - March Evenings

Draw a line crossing the bowl of the Big Dipper diagonally and extend it the same length towards Mirfak in Perseus.

What does Messier 81 look like?

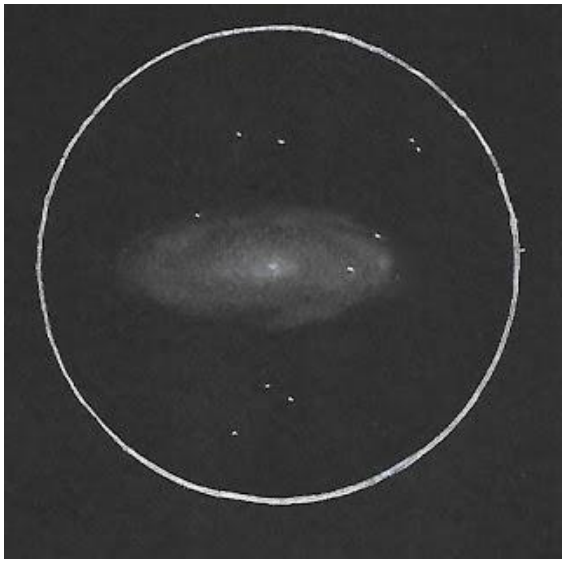
Binoculars:

Round to oval fuzzy glow with brighter nucleus, fainter M82 very close by in same field of view.

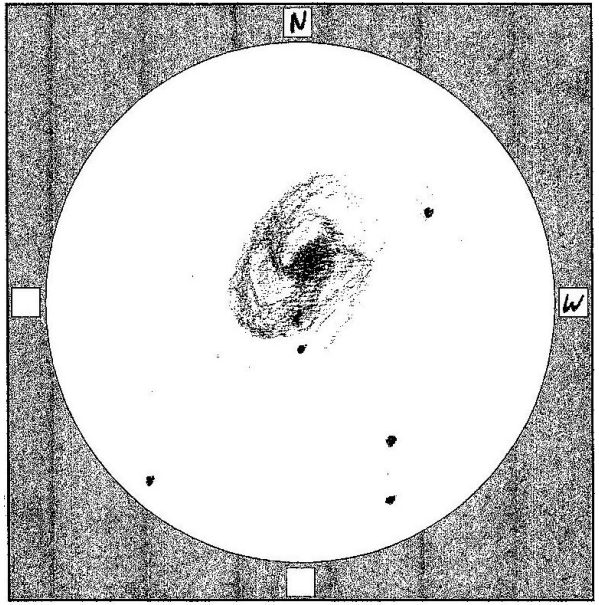
Small Telescope:

Bright, remarkable galaxy, with faint outer edge around oval. Very sharp nucleus, two stars to the south. With patient averted version at low power, spiral arms may be glimpsed in 100mm and larger scopes under very dark skies. At higher powers, arms are not visible in small scopes but the disc no longer appears uniform in brightness, especially to the southeast.

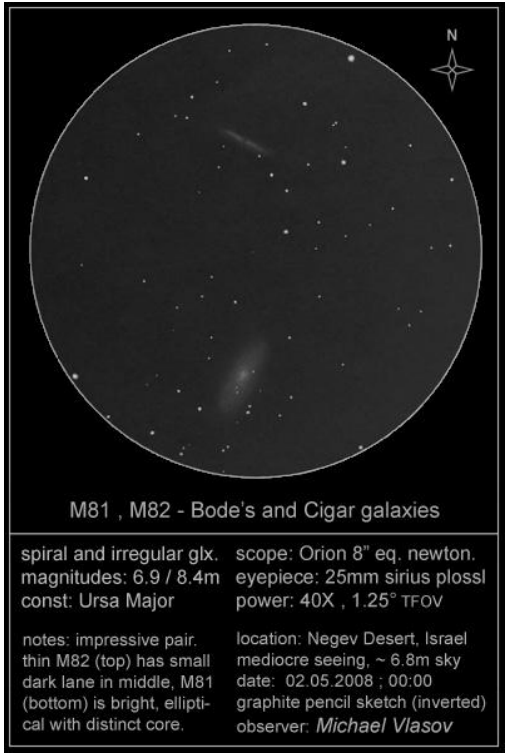
Sketches of Messier 81



Raul Leon
14.5 inch Dobsonian @96x



Michael Wright
114mm Newtonian EQ
Composite of 32x/53x/120x
March 16, 2015



Michael Vlasov
200mm Newtonian @40x

What does Messier 82 look like?

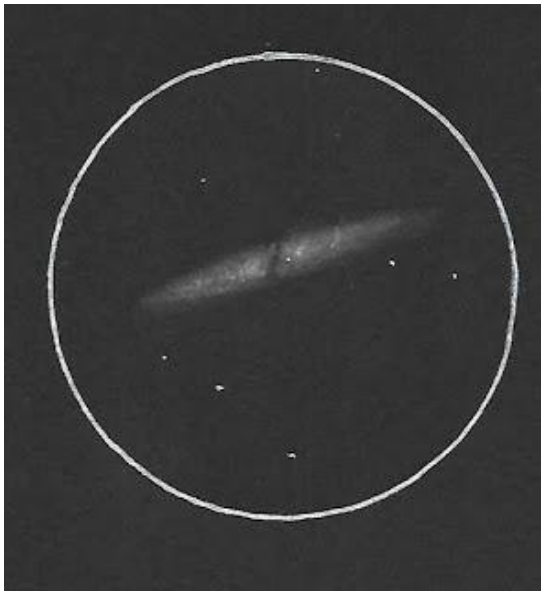
Binoculars:

Under dark skies, faint elongated smudge in same binocular field as M81.

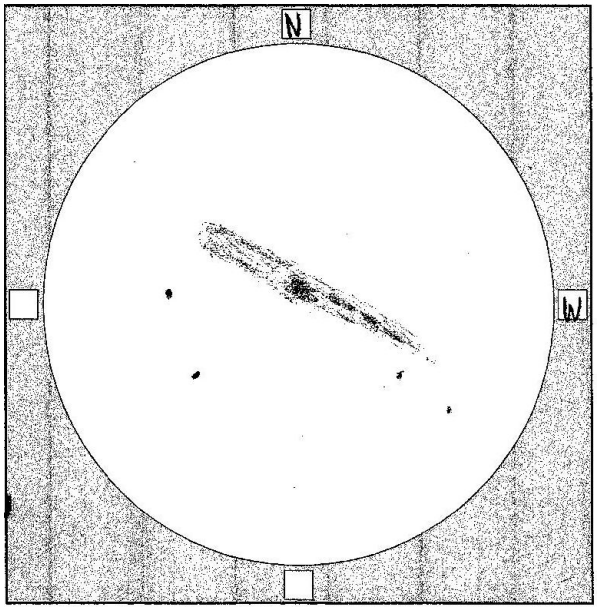
Small Telescope:

At low power, thin ellipse in same field of view as M81, but fainter. Not difficult, however. West side looks brighter than east side to some viewers, and the east end appears more rounded. With averted vision, western half looks mottled.

Sketches of Messier 82



Raul Leon
14.5 inch Dobsonian @198x



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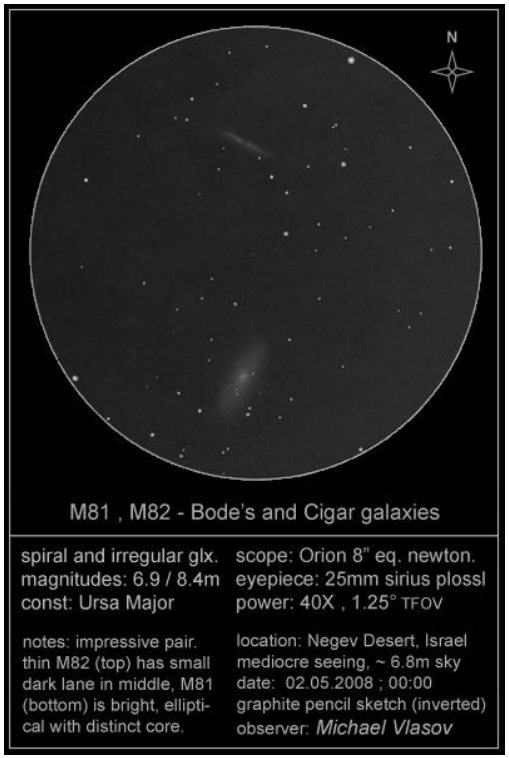

Michael Vlasov
200mm Newtonian @40x

References

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Stephen James O’Meara. 2014. The Messier Objects. 2nd ed. Cambridge University Press.

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