

MONTHLY OBSERVER'S CHALLENGE

Compiled by:

Roger Ivester, North Carolina

&

Sue French, New York

April 2024

Report #183

Hickson 44, Galaxy Group in Leo

Sharing Observations and Bringing Amateur Astronomers Together

Introduction

The purpose of the Observer's Challenge is to encourage the pursuit of visual observing. It's open to everyone who's interested, and if you're able to contribute notes and/or drawings, we'll be happy to include them in our monthly summary. Visual astronomy depends on what's seen through the eyepiece. Not only does it satisfy an innate curiosity, but it allows the visual observer to discover the beauty and the wonderment of the night sky. Before photography, all observations depended on what astronomers saw in the eyepiece, and how they recorded their observations. This was done through notes and drawings, and that's the tradition we're stressing in the Observer's Challenge. And for folks with an interest in astrophotography, your digital images and notes are just as welcome. The hope is that you'll read through these reports and become inspired to take more time at the eyepiece, study each object, and look for those subtle details that you might never have noticed before.

This month's target:

Scanning the skies for galaxies, Canadian astronomer Paul Hickson and colleagues identified 100 compact galaxy groups of galaxies, now called Hickson Compact Groups. Hickson 44 (also designated Arp 316) is populated by the galaxies NGCs: 3185, 3187, 3190, and 3193, as shown in the chart on the following page. Respectively, their visual magnitudes are: 10.2, 13.4, 11.2, and 10.9.

Although some sources include NGC 3189 as part of the group, it is not a separate entity, but rather the southwestern spiral arm of the galaxy NGC 3190.

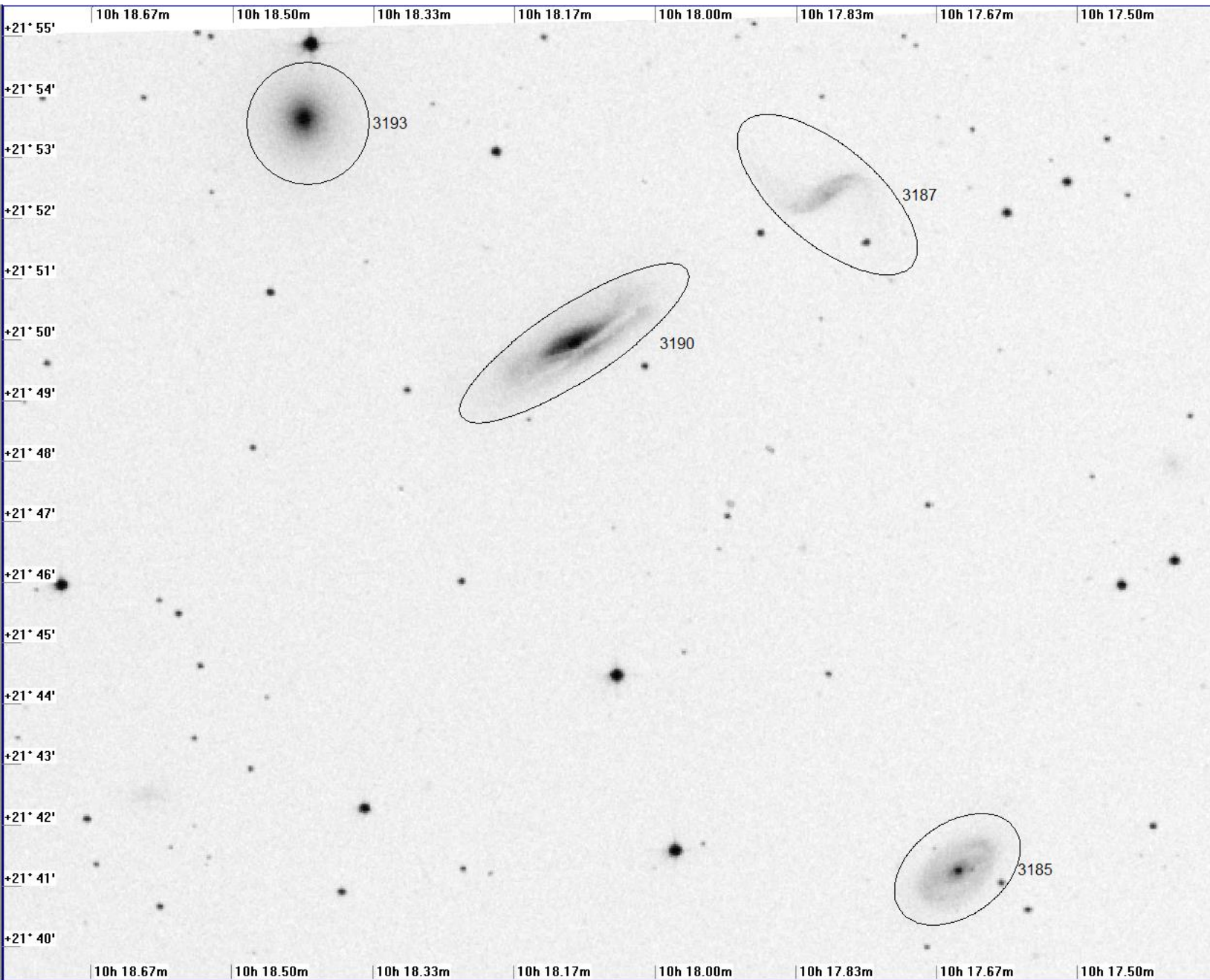


Chart showing the four Hickson 44 Galaxies

Uwe Glahn: Observer from Germany



Object: Hickson 44 = NGC 3185, NGC 3187, NGC 3190/3189, NGC 3193

Telescope: 4" f/4 Newton

Magnification: 54×

NELM: fst 6m5

Sketch Follows



Bertrand Laville: Observer from France



Object information

Object name: Hickson 44 aka Arp 316
Type of object: Cluster of Galaxies
Magnitude: 11.50
Right ascension: 10h 18m 45s
Constellation: LEO

T635

102x Nagler 31mm

More than a group, Hickson 44 is, in fact, the coming together of 4 galaxies, each luminous and structured. Moreover, except at 102x, the group extends beyond the field, and is not observable as such. HK 44C appears a little out of place. We must therefore study each galaxy separately, and vary the magnification depending on what we observe.

240x Ethos 13mm is the best magnification for the study of halos

390x Ethos 8mm is the best magnification for studying the structure of galaxies, particularly dark bands.

It is the best magnification for studying the structure of galaxies, particularly dark bands.

520x Ethos 6mm is best for studying nearby stars.

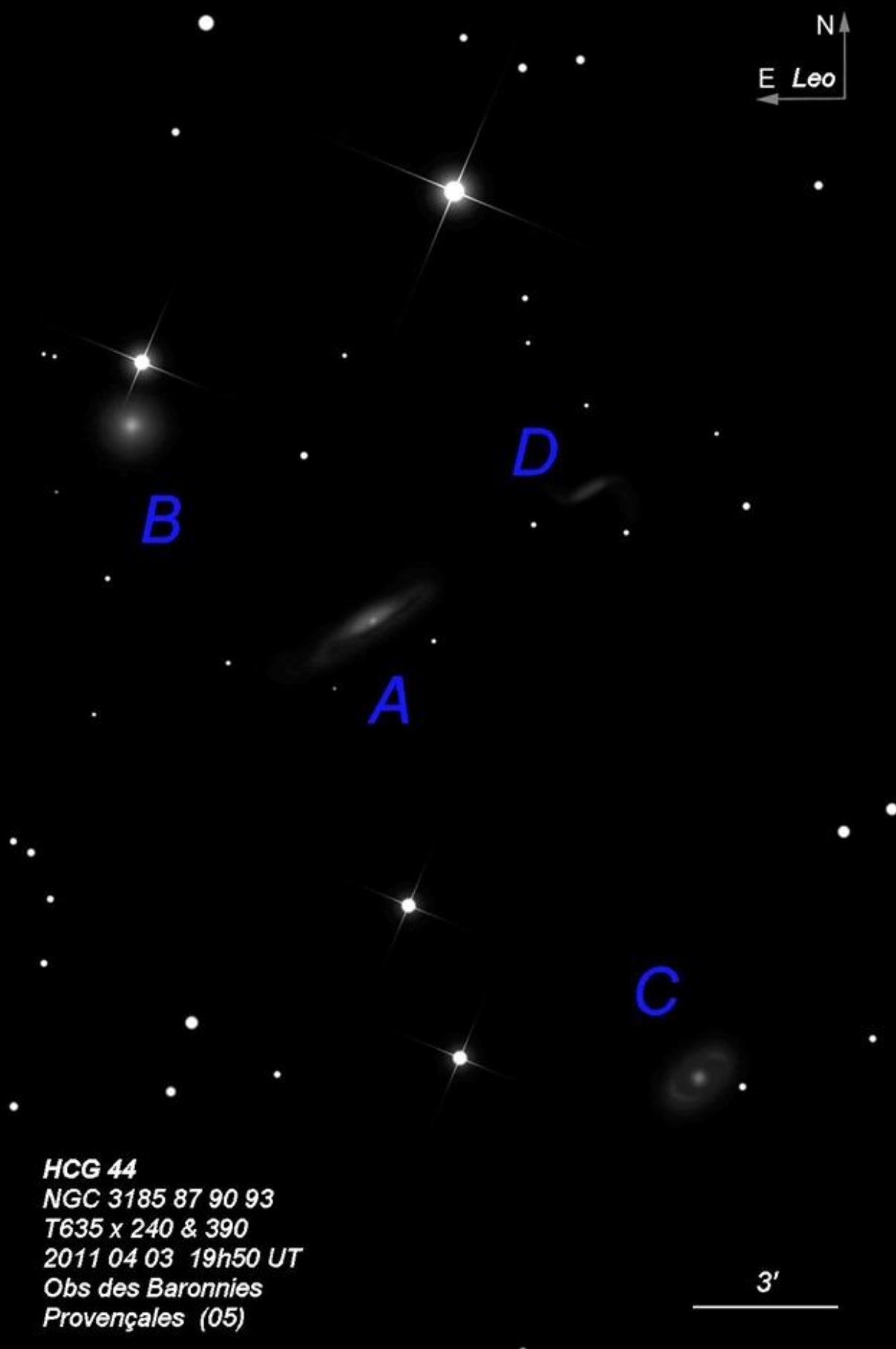
Observation Details

Date of observation: Apr 03, 2011 7:50 PM UT
Duration of observation: 152 mins
Object position: Alt: 62.0°, Az: 137.7°
Observation location: Baronnies Provençales
Observatory
Instrument : TN 635 Dobsonian Obsession
Main eyepiece: TeleVue Ethos 8mm
Magnification: 390×

Sketch Follows

You'll find further details and more of Bertrand's sketches at: <http://www.deepsky-drawings.com/>

You can also select what language you want to read, and see what the abbreviations mean.



HCG 44
NGC 3185 87 90 93
T635 x 240 & 390
2011 04 03 19h50 UT
Obs des Baronnies
Provençales (05)

3'

Phil Orbanes: Observer from Massachusetts

We've had very few clear nights of late. Hickson 44 is a lovely, but distant galaxy group (about 80 million light years from us).

It is also included in Arp's *Atlas of Peculiar Galaxies*. Note: In the background are many tiny and far more distant galaxies.

I used my Planewave 14-inch, to capture this group, taking photos of it in 2017, 2019 and recently,

All of the many hours of my imaging were divided evenly between red, green, and blue filters plus an artificial luminance in Pixinsight. Blur X Terminator was very helpful in sharpening the objects.



Mario Motta: Observer from Massachusetts

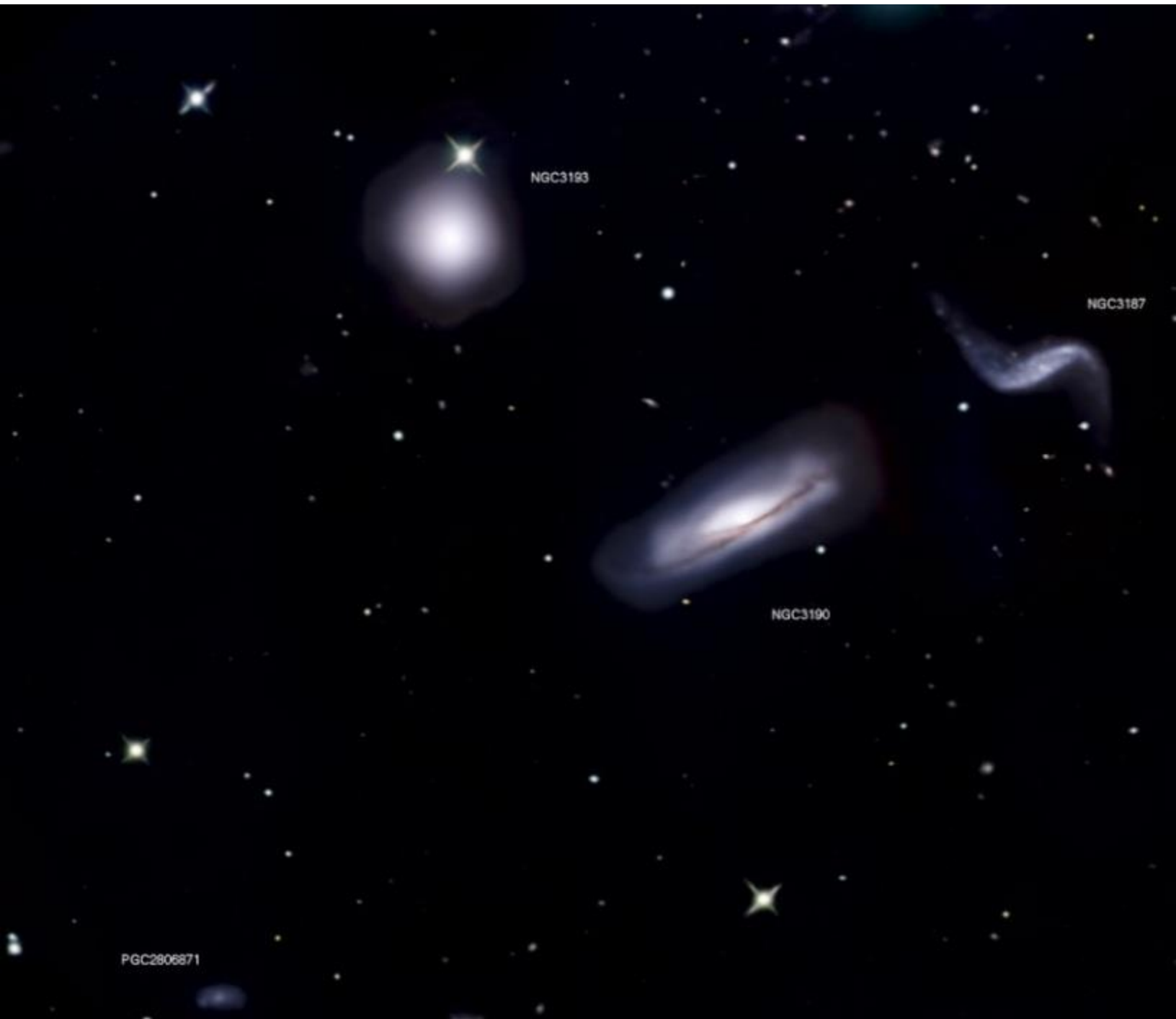


Hickson 44 galaxy group.

NGC 3190, plus company. A very nice grouping of 3 principle galaxies. NGC 3190 (very distorted spiral) NGC 3187 (warped spiral) and NGC 3193 (elliptical). There are some smaller galaxies in the background of which I've labeled a few.

Taken with my 32-inch f/6.5 telescope and ZWO 6200 camera, 1 hour lum, then about 30-40 mins each RBG. Processed PixInsight. A very nice galaxy grouping in Leo about 80 MLY away.

Image follows.



Larry McHenry: Observer from Pittsburgh, Pennsylvania

<http://stellar-journeys.org>



+12.1 mag spiral galaxy NGC 3190 is the second brightest member of the galaxy group Hickson 44

(also known as Arp 316) located in the Spring constellation of Leo – “The Lion”

Other cluster members include spirals NGC 3185, NGC 3187, and the brightest at 11.8 – elliptical galaxy NGC 3193. The quartet of galaxies is located about half-way between the bright stars Algieba (Gamma Leonis) and Adhafera (Zeta Leonis). Nearly edge-on to our view, NGC 3190 is about 79 million light-years distant, with a diameter of about 69,000 ly.

NGC 3190, along with NGC 3187 and NGC 3193 is also cataloged in Halton Arp’s peculiar galaxy catalog, published in 1966, as Arp316 Galaxy Group. Arp notes that edge-on NGC 3190 shows “signs of interaction” though he didn’t specify which galaxy NGC 3190 was interacting with.

NGC 3190 & friends were then cataloged by Paul Hickson in 1982. Using the Palomar Observatory Sky Survey (POSS), Hickson compiled a catalog of 100 faint, compact galaxy clusters. Hickson’s research goal in creating his catalog was to develop a uniform statistically significant sample to aid in studying galaxy evolution and any discordant red shifts between the individual members of these compact groups.

NGC 3190 (H2 44) was discovered on the night of March 12th, 1784 by William Herschel using his 20-ft reflector setup in the back garden of his home in Datchet, near Windsor. (NGC 3193 “H2 45” was discovered later that same evening).

Image Follows.

Video-Capture/EAA:



05/15/2023, from the ORAS Observatory in PA, using an 8-inch SCT optical tube @ f/6.3 on a GEM mount, with a CMOS color camera and broadband filter, 180-second guided exposure, live-stacked for 15 min.

The highly inclined spiral NGC 3190 stands out well from the star field, displaying a warped disk unevenly bisected by a prominent dark-lane. Its nearest companion is spiral NGC 3187 which displays faint arm extensions on either side of the main spiral. The elliptical NGC 3193 is an unresolved ball of stars with a bright core. Lying further away is the barred spiral NGC 3185, displaying a bright core with two nice arms.

John Bishop: *Observer from Massachusetts*



On April 26, 2024, I observed NGC 3190 and NGC 3193, two of the four galaxies in Hickson 44 (from the Hickson Compact Group Catalog, a database of compact galaxy groups published by Paul Hickson in 1982). HCG 44 is a compact galaxy group located in Leo. Observation was made from the ATMobB Clubhouse in Westford, Massachusetts. I used my usual 8.25 inch f/11.5 Dall-Kirkham reflector, a portable setup on a motor driven equatorial drive, without go-to. The sky was clear, but transparency and contrast were only fair. Observers noted during the evening that the sky was brighter than usual for an unknown reason (there was no snow on the ground in this area). The atmosphere was unsteady, at least in the early evening, when I looked at double stars. The temperature dropped from 50+ degrees F. in the afternoon to 40 degrees F. at midnight.

This night was potentially a perfect night for visual observing: no frost, no dew, no bugs. Unfortunately, contrast was weak. As it was, we had a limited deep-sky observing window, given that the 94% moon would rise at 10:58 pm.

HCG 44 was fairly easy to locate by starhopping. It lies slightly more than halfway from Gamma Leonis (Algieba) to Zeta Leonis (Adhafera). This line was well-framed in my 7x50 finder scope. HCG 44 lies near three 8th magnitude stars on this line, and I centered my finder near the middle star. In the main eyepiece, at 48x through a 50 mm 2 inch eyepiece, NGC 3190 and NGC 3193 were directly visible as small hazy patches. At 100x and 134x, these two galaxies assumed obviously different shapes: NGC 3193 was round, and NGC 3190 was elongated. I did not see structure or detail on these objects, other than brightening in the centers. Even so, the view of multiple galaxies in the eyepiece was pleasing. Guest observers at my scope that night took their time taking in the view. (Good tracking helps).

The other two members of HCG 44, NGC 3185 and NGC 3187, were not visible to me. They are smaller and fainter than their companions, with surface brightness of 13.4 and 14.7, respectively (per Luginbuhl and Skiff, Observing Handbook). Of some consolation to me was that they were also not visible to one of the Club's most experienced observers that night using his fine 18 inch Dobsonian reflector.

I came across some interesting background concerning the objects in this exercise. Hickson 44 overlaps with Arp 316 (from the Atlas of Peculiar Galaxies, compiled by Halton Arp in 1966). If I understand it correctly, Arp 316 consists of NGC 3187, NGC 3189 (connected to NGC 3190!), and NGC 3193. Hickson 44 consists of these three, plus NGC 3185. The interesting part for me is that the galaxy labelled NGC 3189 is apparently part of NGC 3190. NGC 3189 is the southwest side of NGC 3190, i.e., SW of the prominent dark lane shown in astro images. I did not see the dark lane. I am wondering if I did not observe carefully enough.

I began my starhop from Gamma Leonis (Algieba). There is a lot going on with this star. In the Interstellarum Deep Sky Atlas, Algieba is shown as a Struve multiple star, and also variable. It is also enclosed with an oval symbol, which means that it has at least one known exoplanet.

Joseph Rothchild: Observer from Massachusetts



I observed Hickson 44 with my 10-inch Dobsonian from the dark and clear skies on Cape Cod. The galaxy group was easily found in Leo near star SAO 81279. There are 4 galaxies in this group, but only 3 were seen. Optimal magnification was 102x.

NGC 3193 was round and compact. NGC 3190 was oval and more diffuse. NGC 3185 was faint, diffuse, and seen only with averted vision. NGC 3187 was not visible.

Sue French: Observer from New York



Hickson 44 is a compact group of four galaxies spanning 18' on the sky.

Through my 130-mm refractor at 63 \times , NGC 3190 is easily visible as an elongated glow tilted west-northwest. NGC 3193 is dimmer and round. It hosts a bright center, and a 9.6-magnitude star nuzzles its northern border. At 91 \times NGC 3190 is about 3½' long and one-quarter as wide. It holds a brighter, elongated center with a starlike nucleus. NGC 3193 measures about 1¼' in diameter. NGC 3185 makes an appearance as a low-surface-brightness oval tipped southeast, and I can barely catch a trace of NGC 3187. At 117 \times NGC 3185 unveils a slightly brighter center. NGC 3187 presents a small, diaphanous wisp pointed at NGC 3190 that's seen only with averted vision.

My 10-inch reflector at 166 \times adds a stellar nucleus to NGC 3193, while my 15-inch reflector at 216 \times greatly prettifies Hickson 44, making features much easier to discern. The larger scope even teases out part of NGC 3190's dust lane, worn like a dusky ribbon upon the galaxy's south-southwestern flank.

Dr. James Dire: Observer from Texas



NGC 3190 is the brightest spiral galaxy in the galaxy cluster known as Hickson 44. The galaxy is located in the Sickle asterism in the constellation Leo, midway between the stars Algieba (Gamma Leonis) and Adhafera (Zeta Leonis). The galaxy group is located approximately 80 million light years away.

NGC 3190 is a spiral galaxy of classification SA. It shines at magnitude 11.1 and is 4.4 x 1.5 arcminutes in size. The galaxy is angled steeply to our line of sight. The galactic core is visible but a prominent dark dust lane obscures much of the foreground galactic disk. The dust lane and disk appear warped, probably due to gravitational encounters with other galaxies in the group. William Herschel discovered this galaxy in the year 1784.

NGC 3193 is a large elliptical galaxy to the northeast of NGC3190. The galaxy is the same overall magnitude if not somewhat brighter than NGC3190. In a small telescope it appears very star-like. The galaxy appears nearly spherical to me but has catalogued dimensions of 3.0 x 2.7 arcminutes. It was also discovered by William Herschel in 1784.

The third brightest member of Hickson 44 is NGC3185, which is a barred spiral galaxy, measuring 2.4 x 2.4 arcminutes and shines at magnitude 13.0. The spiral arms are tightly wound outside the bar and almost appear as a ring. The galaxy contains a lot of dust and star-forming regions.

The final large galaxy in Hickson 44 is NGC 3187, which lies on the northwest side of NGC 3190. NGC 3187 is an SBc barred spiral galaxy shining at magnitude 13.4. In contrast to NGC 3185, its two spiral arms are very loosely wound from the ends of the bar. William Parsons is credited with discovering NGC 3185 and NGC 3187 in the year 1850.

Several of the galaxies in Hickson 44 have satellite galaxies similar to the myriad around the Milky Way. They are too small and dim to be seen in amateur telescopes or captured in images with amateur telescopes.

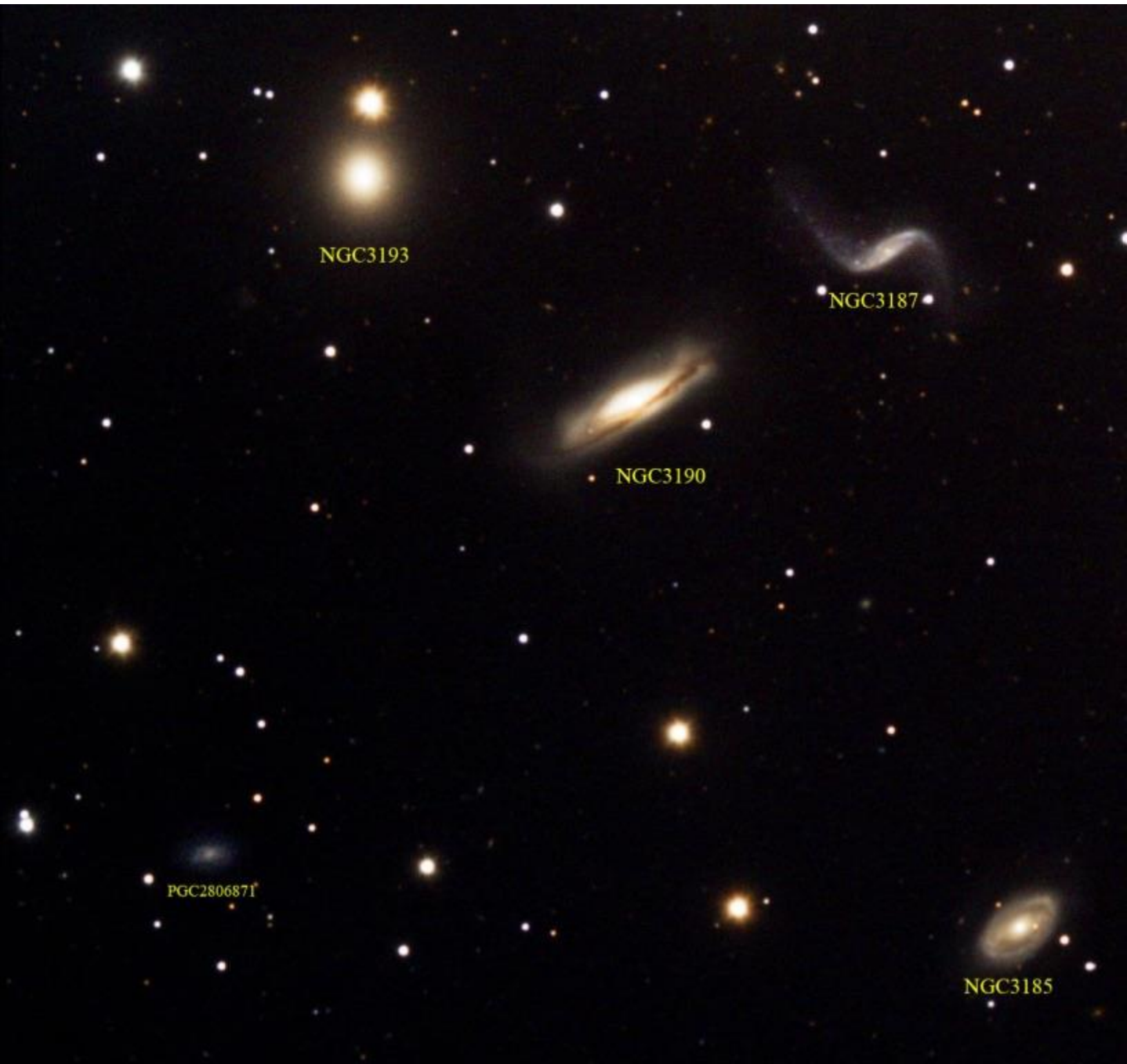
Hickson 44 is a member of the Leo II Galaxy Group, a series of galaxies and galaxy clusters strung out from the right edge of the Virgo Supercluster.

My first image of the NGC 3190 group was taken April 30, 2024 using a William Optics 132mm f/7 triplet refractor and a SBIG ST-4000XCM CCD camera. Due to light pollution at my home in Bryan Texas, I employed a triband filter ($H\alpha$, $H\beta$ and O-III). The exposure was 130 minutes. In the image, north is up and east to the left.

The second image of Hickson 44 was taken with a Discovery 10-inch f/6 Newtonian with a TeleVue Paracorr Type 2 Coma Corrector to yield f/6.9. This 260-minute exposure was captured with an SBIG ST-2000XCM CCD camera with 10-minute subframes. It was taken over two nights in April 2016 from the KEASA observatory on Kauai. The four Hickson 44 galaxies are labeled as well as two fainter background galaxies.







Roger Ivester: Observer from North Carolina



Telescope: 10-inch f/4.5 EQ Newtonian reflector, with a magnification of 114 \times . This galaxy group fits nicely in a 1/2 $^\circ$ field, as my sketch shows.

After many observations of this galaxies group over the years, my best view was on March 24th 1995, from a dark site in the South Mountains of North Carolina. The NELM was about 6.0 and my notes from that night are as following:

NGC 3185: Very faint and dim with very low surface brightness. Averted vision was required to see the elongated shape which was very subtle.

NGC 3187: The most difficult of the group at mag. 13. This galaxy is very faint, mostly round, and little more than a subtle glow or brightening. When observing this galaxy from my suburban backyard, it can be very difficult and can be seen only about 50% of the time, with averted vision.

NGC 3190: This galaxy was fairly bright and relatively easy with the 10-inch. It is elongated SE-NW, with a lens shape and a brighter more concentrated core with a mostly even texture.

NGC 3193: **Bright, well concentrated, mostly** round with a stellar nucleus, located just south of a bright mag. 8.5 star.

Sketches follow

ORIGINAL
 JOGER
 2-20-2019
 27-MAR-1995

Telescope Sketch Pad

Subject NGC 3190 LEO GALAXY GROUP

Date 24-MAR-95 Time 10:00 P.M. Local U.T. Location WESTERN NORTH CAROLINA

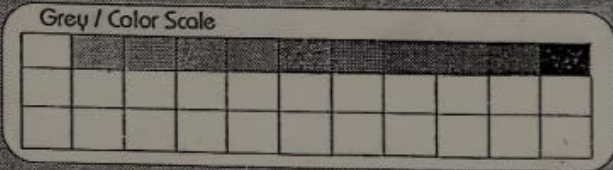
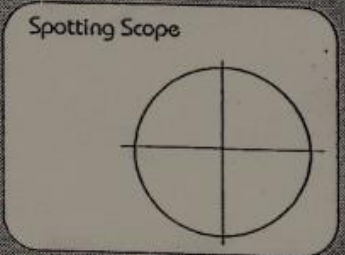
Notes / Conditions VERY GOOD / TEMP 40° / HUMIDITY 35% / WIND CALM

Main Scope

Eye-piece 20 ER ^{2X} mm

Objective 250 mm

Mag. 114 X



Comments FOV = 0.5° 30'
TELES: 10-INCH F/4.5 REFLECTOR

Joger Twister

Telescope Sketch Pad

Subject

NGC 3190 LEO GALAXY GROUP

Date

24-MAR-95

Time

10:00 P.M.

Local

U.T.

Location

102 Maxwell Ave, Bowling Spgs, NC

Notes / Conditions

VERY GOOD / TEMP 40° / HUMIDITY 35% / WIND CALM

Main Scope

Eye-piece

20 ER ^{2K} mm

Objective

250 mm

Mag.

114 X



Spotting Scope



Grey / Color Scale



Comments

FOV = 0.5° 30'

TELES: 10" F4.5 EQ REFLECTOR

ROGER FRIESTER

The following is the complete listing of all Observer's Challenge reports to-date.

<https://rogerivester.com/category/observers-challenge-reports-complete/>