



# Messier 82

*Irregular Galaxy* M82 (NGC 3034), type Ir-II, in [Ursa Major](#)

## Cigar Galaxy

<b>Right Ascension</b>	09 : 55.8 (h:m)
<b>Declination</b>	+69 : 41 (deg:m)
<b>Distance</b>	12000 (kly)
<b>Visual Brightness</b>	8.4 (mag)
<b>Apparent Dimension</b>	9x4 (arc min)



Discovered by Johann Elert Bode in 1774.

Messier 82 (M82, NGC 3034) is a remarkable galaxy of peculiar type in constellation Ursa Major. It is usually classified as irregular, though probably a distorted disk galaxy, and famous for its heavy star-forming activity, thus a prototype member of the class of starbursting galaxies.

Forming [a most conspicuous physical pair](#) with its neighbor, [M81](#) (THE showpiece galaxies for many Northern hemispherers), this galaxy is the prototype of an irregular of the second type, i.e. a "disk" irregular. Its core seems to have suffered dramatically from a semi-recent close encounter with M81, being in a heavy starburst and displaying conspicuous dark lanes. This turbulent explosive gas flow is also a strong source of radio noise, discovered by Henbury Brown in 1953. The radio source was first called Ursa Major A (strongest radio source in UMa) and cataloged as 3C 231 in the Third Cambridge Catalogue of Radio Sources.

In the infrared light, M82 is the brightest galaxy in the sky; it exhibits a so-called infrared excess (it is much brighter at infrared wavelengths than in the visible part of the spectrum). This behaviour can also be observed for the companion of [M51](#), [NGC 5195](#), and the peculiar galaxy [NGC 5128 \(Centaurus A\)](#). The visual appearance is that of a silvery sliver, as John Mallas described it.

Recently, over 100 freshly-formed (young) globular clusters have been discovered with the Hubble Space Telescope. Their formation is probably another effect triggered by the encounter with M81. It was estimated that the most recent tidal encounter occurred between about 50 and several 100 million years ago: STScI's most recent number was 600 million years, when the 100-million-year-long period of heavier interaction began.

As a member of the [M81 group](#), M82 is 12 million light years distant.

M82 was discovered on December 31, 1774 by [Johann Elert Bode](#) together with M81; he described it as a "nebulous patch", about 0.75 deg away from M81, which "is very pale and of elongated shape," and cataloged it as No. 18 in his catalog. [Pierre Méchain](#) independently rediscovered both galaxies as nebulous patches in August 1779 and reported them to [Charles Messier](#), who added them to [his catalog](#) after his position measurement on February 9, 1781.

M82 belongs to those few Messier objects which have been assigned a [Herschel number](#), [H IV.79](#), based on

an observation of September 30, 1802, while [William Herschel](#) usually carefully avoided to give his numbers to Messier objects.

[William Parsons, the Third Earl of Rosse](#), was the first to remark on the dark dust lanes and patches visible in the central part of M82.

Halton Arp has included M82 as No. 337 in his [Catalogue of Peculiar Galaxies](#).

One false and one true supernova have been reported in M82 so far:

- Lebofsky, Rieke, and Kailey reported the discovery of a supernova, 1986D, which should have occurred in M82, and is e.g. listed in Kenneth Glyn Jones' book. However, this "SN" turned out to be a false alarm. Instead, a slightly variable 2-micrometer source had fooled the discoverers.
  - [Supernova 2004am](#) was discovered lately on images taken at Lick Observatory on November 21, 2003, when it was at mag 17.0.
- [Historical Observations and Descriptions of M82](#)
  - [Bill Keel's images of M82](#)
  - [Hubble Space Telescope images of M82](#)
  - [UIT images of M82](#)
  - [Chandra images of M82](#)
  - [More images of M82](#), and [even more images](#)
  - [Amateur images of M82](#); [More amateur images](#)
  - [More images of M81 and M82](#)
- [Michael Allen's M82 Research Webpage](#); he gives a summary of the history of M82 research, his own work and internet links on M82.
  - [Multispectral Image Collection of M82](#), SIRTf Multiwavelength Messier Museum
  - [SIMBAD Data of M82](#)
  - [NED Data of M82](#)
  - [Publications on M82 \(NASA ADS\)](#)
  - [Observing Reports for M82](#) (IAAC Netastrocatalog)
  - [NGC Online data for M82](#)

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