

The outside of the solar system

[Science](#), [Physics](#)



The Outside of the Solar System In the May Issue of Sky and Telescope Magazine, Sue French wrote the article entitled "Heavens Within Themselves" where she featured and discussed the neglected galaxies M88 and M91 in Coma Berenices.

M88 is a Seyfert galaxy (named after American astronomer Carl Keenan Seyfert) and is one of the brightest spiral galaxies in the Virgo cluster (French, 56). It is 54 million light years away from us with location of 2.9° south-southwest of 25 Comae and has at least 1,300 members. Both M88 and 25 Comae share the field of view through 15×45 image-stabilized binoculars. The galaxy is a faint oval with a dim star dangling from its southeastern end and M88 is easily visible, elongated, runs southeast-northwest, and with halo covers about 4½' × 2' that enfolds a small, brighter core with a stellar nucleus.

Meanwhile, the galaxy M91 is located at 50' east of M88 and at the same binocular field of view with M88; however, M91 is a faint spot. It grows a small round core with bar-like extensions that run east-northeast to west-southwest, a stellar nucleus, a 2' core, and a less than half core. M91 has long been considered as a "missing" object and astronomers and historians hypothesized that it might be the NGC 4571, a passing comet, or a duplicate observation of M58. It was William C. Williams, an amateur astronomer from Texas, who found out that NGC 4548 fit Messier's description and position for M91 and should be applied for M88 and not for M58 (French, 57).

In addition, galaxies such as NGC 4516, IC 3476, and NGC 4571, were also described in the article. NGC 4516 is a little galaxy which is located 8' north of an imaginary line connecting M88 and M91. It has a very small glow

elongated north-south and a small core with a distinct nucleus at the center of a shallow S curve. IC 3476 is an intriguing galaxy that rests 4.4' east of the northern star, displays a lumpy brightness distribution and peculiar shape, and a relatively large, blotchy, bright area wide end. It surprised astronomers with a super nova in 1970 and has been assigned a morphological type of IB(s)m (French, 58). Lastly, NGC 4571 is a SA(r)c-type galaxy which rests on 28' southeast of M91 and appears roundish with a small brighter core. All of these galaxies rests on the core of the Virgo cluster and are some of the reasons why heavens are sparkling with amazements. The article summarized above relates to the Astronomy Course Content in terms of studying how far the stars or galaxies are, description of stellar nurseries, and exploring other galaxies aside from the Milky Way. One would have noticed that distances were stated in the article and it relates to the Astronomy Course Content because measures such as stellar parallax and apparent magnitude are to be studied in Astronomy to determine distances and brightness to the nearby stars. In addition, stellar nurseries relates to the concepts of supernova explosions that are responsible for the birth of the stars and NGC. Lastly, this article relates to the Astronomy Course Content because billions of galaxies including Milky Way, M88, M91, NGC 4516, IC 3476, and NGC 4571 will be studied in Astronomy. The article provided an overview that a student should be prepared enough to learn the billions of galaxies, including the spiral arms, the nucleus, and the types of galaxies. The article paved way in letting the student or readers understand that studying Astronomy is complex and infinite as most of the matter in the Galaxy has not yet been identified and concepts such as galactic nucleus is

still poorly understood.

Work Cited

French, Sue. " Observing Deep-Sky Wonders: Heavens Within Themselves."

Sky and Telescope, 123(5), 2012: 56-59. Retrieved on April 17, 2012 from

[http://www. skyandtelescope. com/](http://www.skyandtelescope.com/)