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Living in the Milky Way

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Living in the Milky Way

Abstract

It's finally here. Today, June 20 at 6:34 p.m., is the the summer solstice, also known as the first day of summer and, confusingly enough, midsummer's eve. From a scientific perspective, it marks the moment the sun reaches its northernmost point in our sky. As a result of that position, it's the shortest night and longest day if you live north of the equator. [*excerpt*]

Keywords

Astronomy, Summer Solstice, The Milky Way

Disciplines

Astrophysics and Astronomy | Stars, Interstellar Medium and the Galaxy | The Sun and the Solar System

Comments

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Living

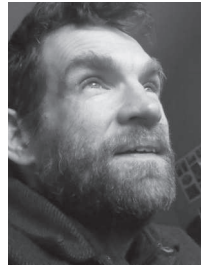
Living in the Milky Way

It's finally here. Today, June 20 at 6:34 p.m., is the the summer solstice, also known as the first day of summer and, confusingly enough, midsummer's eve. From a scientific perspective, it marks the moment the sun reaches its northernmost point in our sky. As a result of that position, it's the shortest night and longest day if you live north of the equator.

These short but pleasant nights offer several highlights this year, including three bright planets in the evening sky. After dark Jupiter shines bright and white in the west; it sets about midnight. Mars, though not as bright as last month, is still a red beacon in the south. Just to its left are Saturn (higher) and the star Antares. Watch this triangle shrink over the summer as Mars slides toward the other two objects. The moon happens to be full on the solstice, so it will rise and set opposite the sun. After new moon on July 4, it will emerge as a waxing crescent in the evening. You'll see it near Jupiter on July 8 and near Mars and Saturn July 14 and 15, by which time it will be a waxing gibbous. The Summer Triangle of stars Vega, Altair, and Deneb is currently in the east when it gets dark and at its highest about 2 a.m.. A month from now it will reach its high-

LOOKING UP

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est at midnight. The Summer Triangle makes an excellent start to learning more stars and constellations. To build on that start, I recommend the free star maps available at starmaps.com.

Summer skies call to mind that delicate band of light called the Milky Way. Though the Milky Way actually encircles the entire sky, it's brightest region runs through the Summer Triangle down toward the constellation Sagittarius. For viewers in the northern hemisphere, that area is never very high above the horizon, so you need to know when to look. Additionally, you'll want to find a dark moonless sky, as far from towns and artificial lights as you can manage. This year I suggest the nights around the new moon, July 4. Go out about midnight and face south for your best view of the

Milky Way.

When you are looking, it's good to ponder what you're seeing: our own home galaxy, made up of over 100 billion stars and other material, viewed from the inside. The you see light is the accumulated glow of a small fraction of those faint stars. The Milky Way, as a giant spiral galaxy, is fairly flat (only 2,000 light years thick but over 100,000 in diameter). That's why we see it as a band rather than some other shape. The band gets brightest toward the constellation of Sagittarius because that is the direction of the Milky Way's center, about 30,000 light years away.. We cannot see all the way to the galaxy's center, but there is still more material in that direction than any other. Of course, since we cannot see an external view of our own galaxy, we have had to deduce all this informations over years of study. One recent (2005) piece of knowledge that I will leave you with is that our Milky Way is not just any spiral galaxy - it is a barred spiral. Its nucleus not round, but instead elongated into a bar. It is, hands down, the coolest galactic structure there is. Look it up and see if you agree.

Ian Clarke is the director of the Hatter Planetarium at Gettysburg College.