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## Meteor shower over michigan tonight

The Perseids meteor shower will culminate tonight. Most of the skies over Michigan will be favorable for viewing meteors, but not in all places. Here's a look at where you need to be and when to see meteors. The Perseid meteor captured by Brian Ottum, Ph.D.The meteors will become visible once the sky is dark enough tonight, probably around 9:30 p.m. You only have time between 9:30 and 9:30.m and 12:40.m to see meteors tonight. Around 12:40 p.m.m the moon rises and is likely to make the sky too light to see any meteors. The northern two-thirds of Michigan will have clear skies and great viewing of meteors tonight. The skies south of I-94 may not be as clear. Here's a cloud forecast for 22.m evening. The cloud forecast of 10 p.m. on the evening of August 11, 2020Folky in the far south lower will have the best chance of clear skies right in the dark. The rest of Michigan should have a big, clear sky in the dark. By midnight the ability to see meteors across southern Lower Michigan may get harder. The cloud forecast below shows high clouds moving in the sky over southern Michigan. High clouds may be thin enough to see stars, but they certainly won't be optimal for seeing Perseids.Cloud forecast in percentage coverage for 10 p.m. tonight, August 11, 2020.Here are some tips from a great astronomy enthusiast, Brian Ottum, Ph.D. Coming out of town, away from the city lights. A rural place with wide open skies and not many blocking trees is best. Try to avoid bright lights such as street lights, outside barn lights, car headlights. Start looking at 9:30pm when dusk ends, and search until 12.40pm when the moon comes to smedu let out all but the brightest meteors. Get a comfortable sun lounger or blanket on the ground. Don't look at your phone, or you'll lose dark eyes. Wear mosquito repellent or protective clothing. Look up, in any direction. Try to see a wide part of the sky. Meteors peak tonight, but will still be worth trying to display on Wednesday night. Skies should be clear everywhere in Michigan on Wednesday night, even the Southern Lower.Extended exposure shows rotating stars and planets with a Perseid meteor. (Photo from Brian Ottum, Ph.D.Here are the best dark-sky places to see meteors. RELATED READING: Perseids meteor shower: The best days to view weather-wise, and what to expect Next period of activity: November 6, 2020 to November 30, 2020 Leonids are best known for producing meteor storms in 1833, 1866, 1966, 1999 and 2001. These bursts of meteoric activity are best seen when the parent object, comet 55P/Tempel-Tuttle, is near the perihelion (the closest approach to the sun). Yet it's not the fresh material we see from the comet, but rather the debris from previous yields that also happened to be the most dense at the same time. Unfortunately, it seems that the country will not encounter any thick clouds of debris until 2099. Therefore, when the comet returns in 2031 and 2064, storms, but perhaps a few good displays of Leonid activity when rates are higher than 100 per hour. The best we can hope for now through 2030 is peaks of around 15 members showers per hour and perhaps an occasionally faint blast when the ground passes near the debris trail. Leonids are often bright meteors with a high percentage of persistent trains. Shower details - Radiant: 10:08 +21.6° - ZHR: 15 - Speed: 44 mph (swift - 71km/s) - Parental object: 55P/Tempel-Tuttle Next Peak - Leonids will be the next peak on November 16-17, 2020 night. On this night, the moon will be 5% full. Quadrants begin 2020 with a display of up to 100 burning blue stars firing per hour and four supermoons are on the monthly calendar. (Shutterstock) MICHIGAN -- If one of your New Year's resolutions is to spend more time outdoors with your family, or just get out more yourself, the skies over Michigan offer hours of enchantment that's not just fun, but a practical science lesson for kiddos about the cosmos. To start your resolution off to the right, note that astronomers are buzzing about the quadrantid meteor shower that culminates Jan. 3-4. This colorful blue meteor shower with a limited viewing window typically produces about 40 shooting stars per hour, but by 2020 it could be up to 100 per hour. In addition to meteor showers, full moons and supermoons - there are four in 2020 - Jupiter and Saturn will appear on one planet in a spectacular and rare connection in December. If you didn't spend your summer night staring into the sky, you weren't doing summer properly; Fortunately, the planets show up all summer. To get the best view, find a dark sky. This can be your backyard if you live in a rural area; others may have a little creative. In Michigan, the best places to view are Dark Sky Preserves.Dark Sky preserves are protected from light pollution and are ideal places for stargazing. Michigan is home to state-designated Dark Sky Preserves, which are located in six state parks. There are also plenty of excellent night-time sky-viewing opportunities across more than 15,000 square miles in Michigan's upper peninsula. Headlands Dark Sky Park (Emmet County park) is the only internationally marked Dark Sky Park in the state and offers additional opportunities for viewing the night sky. Jan 3-4, Quadrantid meteor shower peak: This is a meteor shower you may have never heard of - it's short, running from January 1-5, and occurs when it's miserable to be out in most areas, but it's a shame if you've never caught it. Quadrants produce up to 40 shooting stars per hour at the top; but in 2020, up to 100 meteors per hour could fly during the January 3-4 peak, according to Space.com. The moon in the first quarter is located just after midnight and leaves a dark sky for optimal viewing conditions. April 22-23, Lyrid meteor shower peak: This meteor shower running April 16-25 is not the best of the year, but with warmer settle down, it is worth a look. Lyrids reliably produce 20 meteors per hour, sometimes with clear dust traces you will be able to watch for a few seconds. The relatively new moon will be for dark skies. The best viewing time is after midnight. Meteors radiate from the constellation Lyra, but can be seen anywhere in the sky. May 6-7, Eta Aquarid meteor shower peak: This above average, long-running meteor shower from April 19 to May 28 produces up to 30 meteors per hour at its peak. Unfortunately, the moon - and the supermoon on it - is out of the bluest but brightest meteors, although patience can be rewarded for those looking for dark skies after midnight. The constellation Aquarius is a shining point, but meteors are visible anywhere in the sky. July 28-29, Delta Aquarid meteor shower peak: Made by debris left behind by the Marsden and Collapse comets, this modest shower produces about 20 meteors per hour from July 12 to August 23. The moon of the second quarter is out of the darkest of meteors, but viewers can be rewarded. Meteors radiate from the constellation Aquarius, but are visible anywhere in the sky. August 12-13, Perseid meteor shower: If you can catch just one meteor shower in 2020, make it the Perseids that produce up to 60 shooting stars per hour at the top. The shower, which lasts from July 17 to August 24, is known for producing large numbers of bright meteors. The moon of the second quarter is out of the darkest of the weakest meteors, but this shower is so bright and fruitful that it should still be a winner. Perseids fly mainly after midnight and can be seen anywhere in the sky, even if they radiate from the constellation Perseus. October 7, Draconid meteor shower peak: Draconids are a smaller meteor shower with only about 10 shooting stars per hour; But occasionally, draco dragon - a shining point of dragons - breathes fire, and an explosion occurs. The shower runs annually October 6-10. Unlike other meteor showers, peak viewing time is in the early evening. The month of the second quarter means that the viewing conditions should be good. October 21-22, Orionid meteor shower peak: Orionids run annually from October 2 to November 7, and reliably produce about 20 meteors per hour on top of showers. Viewing is best after midnight, and the crescent moon is set in the meantime. The ancient shower is produced by dust grains left behind by comet Halley. Meteors appear to radiate from the constellation Orion, but can be seen anywhere in the sky. November 4-5, Taurid meteor shower peak: Taurids are active longer than any other meteor shower of the year, running annually from September 7 to December 10. Taurids are not particularly prolific, producing only about five to 10 meteors per hour. What makes this shooting star an unusual show is that meteors come from separate debris currents - dust grains left behind by asteroid 2004 TG10 and debris from Comet 2P Encke. The month of the first quarter on top of the shower can block all except Meteors. After midnight is the best time to look for meteors that radiate from the constellation Taurus, but can be seen anywhere in the sky. November 17-18, Leonid meteor shower peak: This average shower, produced by dust grains from comet Tempel-Tuttle, runs November 6-30 and produces about 15 meteors per hour at its peak. It's unpredictable, though, and produces hundreds of meteors per hour during cyclone peaks that occur about every 33 years. This last happened in 2001, so don't expect a cycle flurry this time. The best time to watch Leonids is after midnight, and the crescent moon has already set in, leaving a dark sky. Meteors radiate from the constellation Leo, but are visible anywhere in the sky. Dec. 13-14, Geminid meteor shower peak: The only thing perseids have over Geminids is that they occur in summer when it's comfortable to be outdoors. Geminids, which run From 7-17 December each year, are known to produce up to 120 multicolored meteors at their peak. Made by debris left behind by asteroid 3200 Phaethon, this shower is best viewed after midnight. Almost a new month will make for excellent viewing conditions. Meteors radiate from the constellation Gemini, but are visible anywhere in the sky. Dec 21-22, Ursid meteor shower: This smaller meteor shower runs Dec. 17-25 and produces about five to 10 meteors at the top. Viewing conditions are best after midnight. The moon's first quarter will begin just after midnight, so dark skies will improve meteor tracking. Meteors come from the constellation Ursa Minor, but can be seen anywhere in the sky. Full Moon, Supermoons, Lunar Events 10th Full Moon: As they could hear hungry wolves howls outside in winter camps, Native Americans called the first full moon in 2020 a full moon. January full moon was also called the old moon and moon after yule. The penumbral lunar eclipse, which occurs when the moon passes through Earth's partial shadow - or penumbra - will also occur January 10, but will not be seen in the United States. February 9, full moon and supermoon: This full moon is also the first of four supermoons of 2020 - moons that appear to be larger and brighter when they approach Earth. Heavy snow fell over Indian camps at this time of year, so they called february's full moon either a full moon or a full moon, the latter because hunting was heavier in heavy snow. March 9, full moon and supermoon: This month's full moon is the second of four supermoons of 2020. It heralded the approach of spring, and early Native American tribes called it full moon worm moon to mark the season as earthworms began working their way out of the newly thawed landscape. It was also called the crow moon, the crust moon, the moon's reed and lent moon. April 8, full moon and supermoon: The third of the four supermoons of 2020, april's full moon is often called the pink moon because it's the time of year when wild re-emerged ground phlox. The first full moon after the spring equine is also called the germination of the grass moon, the rising moon and the egg moon. Some coastal Native American tribes called it a full moon to mark the time of year when shad swam upstream to spawn. May 7, full moon and supermoon: The last of four consecutive supermoons and the finale of the extra-large-and-bright lunar ball in 2020 was also called the full moon of Native American tribes. Alternately, it is also called full corn planting month and milk moon. June 5, full moon: Native American tribes have called it a full moon to signal the ripening of sweet fruit, but it's also called a full moon and a full moon of honey. July 5, a full moon and a penumbral lunar eclipse: A picture of a glittering moon afloat at a Fourth of July celebration on the beach. It's even better. A penumbral lunar eclipse will be seen across most of North America, as well as South America, and the Eastern Pacific and Western Atlantic Oceans. This type of eclipse occurs when the moon passes through a partial shadow of the Earth, called a penumbra, and the moon darkens slightly. The July full moon was also called full moon by Native American tribes because that's when male deer start growing their antlers, but it is also called full moon and full moon. 3rd, full moon: Native American tribes called the full moon sturgeon because the large fish found in the Great Lakes and other great lakes were easier to catch at this time of year. August full moon was also called green corn month and moon grain. September 2nd, full moon: Early Native American tribes called September a full moon because it signaled a time to start harvesting corn. October.1, full moon: This year, but not every year, october full moon is also harvest month. The month of harvesting is always the one that occurs closest to the September equine. Native American tribes called it the moon of the complete hunter, because it's a time of year when the game was fat and ready to hunt. The moon was also called a travel month and a bloody month. 31 October, full moon and blue moon: In 2020 there is one blue moon – that is, the second of two full moons in a single month. Blue moons occur every few months, but are still rare enough to lead to a once-in-a-blue moon deadline. November 30th, full moon and penumbral lunar eclipse: The November full moon occurs as it passes through earth's partial shadow, or penumbra. During this type of eclipse, the moon darkens slightly. The November full moon was called Full Beaver Month by Native Americans who busied themselves setting beaver traps before the swamp and river froze. It was also called the freezing moon and hunter month. December 30, full moon: During a long, dark and cold night in December, Native Americans called the full moon a cold moon. It is also called before yule and full moon long nights. Equine and solstice March 20, the first day of spring: During the vernal equine, or spring equine, the sun shines directly on the equator and there are almost the same amount of day and night. June 22nd, first day of summer: The summer solstice occurs when the North Pole of the Earth is directly above the Tropic of Cancer. It's the longest day of the year in the northern hemisphere. September 22nd, the first day of autumn: The autumnal equine occurs when the sun shines directly on the equator and there are almost the same amount of day and night around the world. 21.00, the first day of winter: The winter solstice occurs when the South Pole of the Earth is directly above the Tropic Of Capricorn. It's the shortest day of the year in the northern hemisphere. Planetary events of February 10, Mercury at its largest eastern elongation: The planet is 18.2 degrees from the sun, offering excellent viewing opportunities because it will be at its highest point above the horizon in the evening sky. You will see a planet low in the western sky just after sunset. March 24, Mercury in its largest western extension: Mercury will be at its highest point above the eastern horizon just before sunrise. March 24, Venus on its biggest eastern extension: Mercury doesn't get all the glory on this day. Venus will be its closest approach to the sun, and the bright planet will be at its highest point above the western horizon after sunset. On June 4, Mercury in its largest eastern extension: Mercury will again be close to the sun. Look for it low in the western sky just after sunset. July 14, Jupiter in opposition: Jupiter is a giant planet, and when it makes its closest approach to Earth, its face is fully illuminated by the sun. Jupiter is never brighter than it is at this time of year, making it the perfect time to view and photograph the planet and its moons. You'll be able to see Jupiter all night, and the medium-size telescope should be strong enough to reveal some details in the planet's cloud zone. The moons should be visible through a good telescope. July 20, Saturn in opposition: You should be able to see Saturn's ring and several of its brightest moons with a medium-size or larger telescope when the planet makes its closest approach to Earth and its face will be fully illuminated by the sun. July 22, Mercury in its largest western extension: Mercury will be at its highest point above the horizon in the eastern sky just before sunrise. 13th plagues Venus at its biggest western extension: Venus will be at its highest point above the horizon of eastern skies just before sunrise. September 11, Neptune in opposition: The face of the giant blue planet will be fully illuminated by the sun, and Neptune will be brighter than at any other time of the year. The planet is so far away that you will need a powerful telescope to see it as more than a small blue dot. It'll be visible all night. Oct.1, Mercury in its biggest eastern extension: Mercury will at its highest point above the horizon in the evening sky. The best time to look at the planet is low in the western sky just after sunset. October 13, Mars in opposition: As Mars makes its closest approach to Earth, its entire face will be illuminated by the sun. This is the time to get out with a camera and a medium-size telescope, because the planet will be brighter than at any other time of the year. With the right equipment, you may be able to see some of the dark details on the surface of the red planet. Mars will be visible all night. October 31st, Uranus in opposition: The blue-green planet will be its closest approach to Earth, and its face will be completely illuminated by the sun. Brighter on this night than at any other time of year, uranium will be visible all night. If you're planning to view it, you'll need a powerful telescope. November 10, Mercury on its biggest Western extension: Mercury makes its last close appearance on Earth in a year. Look at it low in the eastern sky just before sunrise. 9pm, a rare connection between Jupiter and Saturn: When the two planets appear within seven arc minutes of each other, it's known as the great connection that last happened in 2000. They'll be so close that they'll appear as one bright planet. If you want to see, look at the western sky just after sunset. Source: Seandsky.org, NASA.gov, Space.com and Earthsky.org. Earthsky.org.

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