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space and astronomy news



Comet 45P/Honda-Mrkos-Pajdušáková From October 1st, 2011 taken with a 10"/3.8 Newtonian and CCD imager. Image credit and copyright: Michael Jäger.

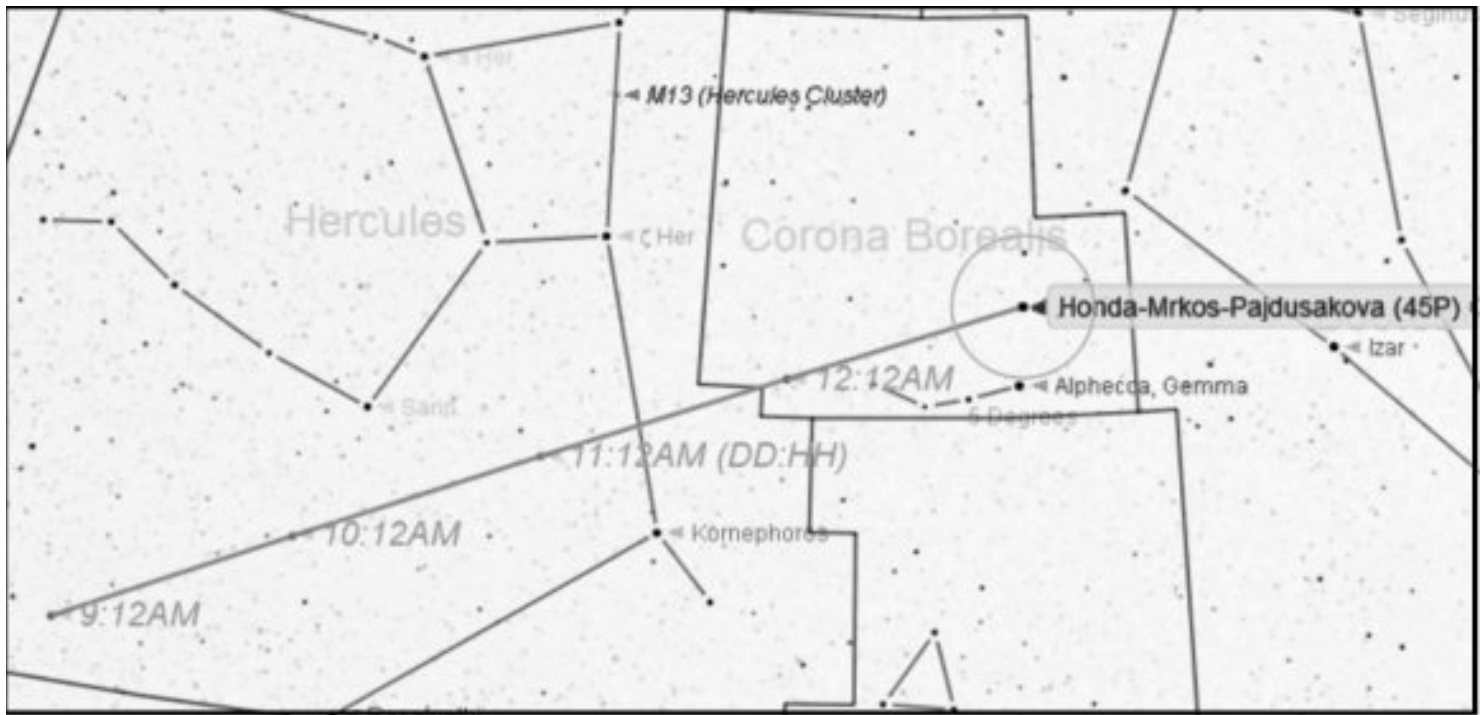
PREVIEW: COMET 45P/HONDA-MRKOS-PAJDUŠÁKOVÁ BRIGHTENS IN DECEMBER



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by [David Dickinson](#)

Looking for a good binocular comet? Well, if luck is on our side, we should be getting our first looks at periodic Comet 45P/Honda-Mrkos-Pajdušáková as it tops +10th magnitude in dusk skies over the next few weeks.



The swift path of Comet 45P/Honda-Mrkos-Pajdušáková on the nights of February 9th to February 12th. Image credit: Starry Night.

Comet [45P/Honda-Mrkos-Pajdušáková](#) is expected to reach maximum brightness around late February 2017. Discovered independently by astronomers Minoru Honda, Antonin Mrkos and [L'udmila Pajdušáková](#) on December 3rd, 1948, Comet 45P/Honda-Mrkos-Pajdušáková orbits the Sun once every 5.25 years on a short period orbit. Comet 45P/Honda-Mrkos-Pajdušáková is set to break binocular +10th magnitude brightness in mid-December 2017, and may reach a maximum brightness of magnitude +7 from January through February 2017.



Slovak astronomer L'udmila Pajdušáková, co-discoverer of 5 comets, including Comet 45P/Honda-Mrkos-Pajdušáková. Image credit: The Skalnaté Pleso Observatory.

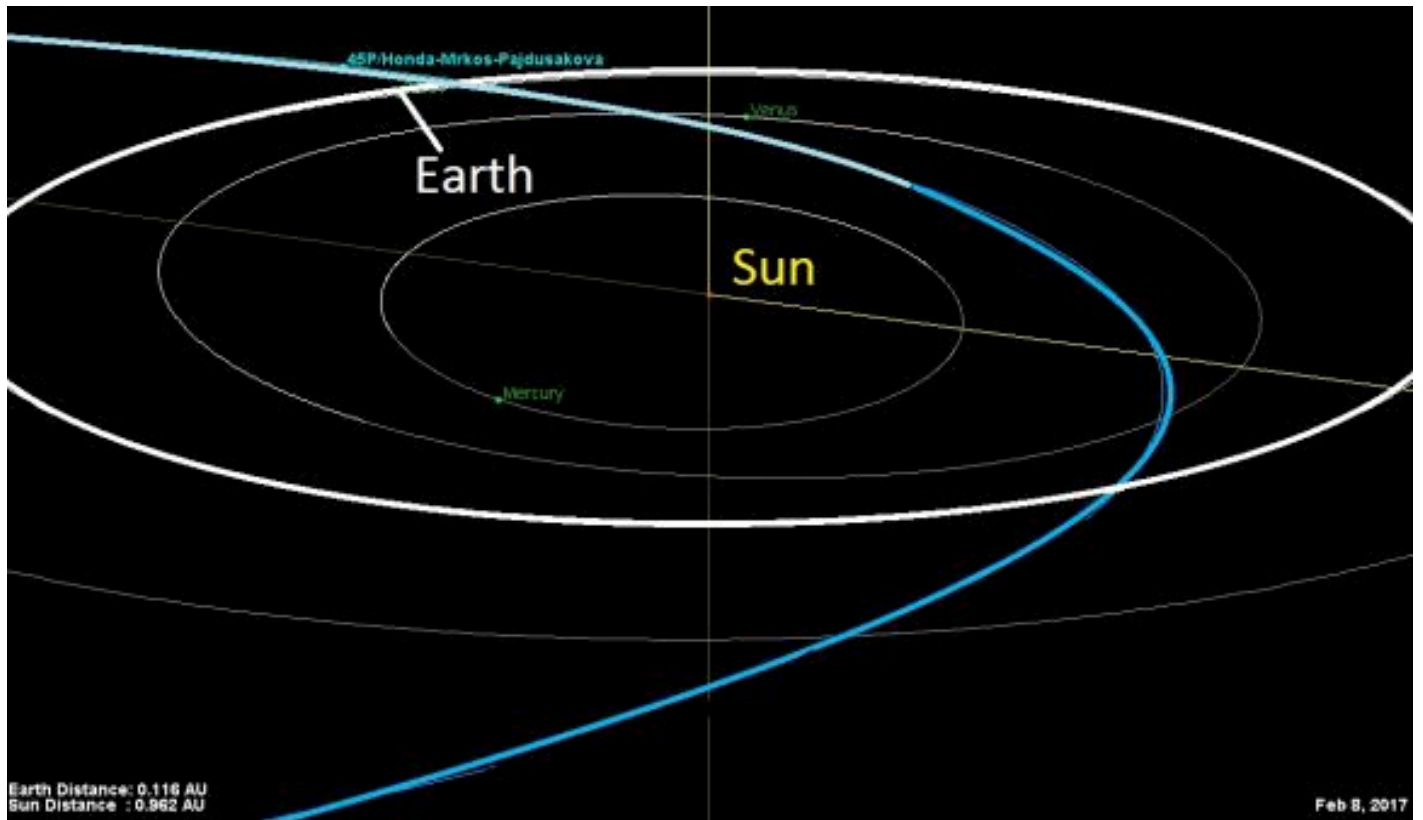
Currently and through the end of 2016, the comet sits towards the center of the Milky Way Galaxy in Sagittarius at a faint +15th magnitude in the evening sky. The comet may break +10th magnitude and become very briefly visible in the first few weeks of December before getting too close to the Sun to observe in late 2016 and crossing into the morning sky in early 2017.



The path of Comet 45/P from mid-November through December 15th, 2016. Image credit: Starry Night.

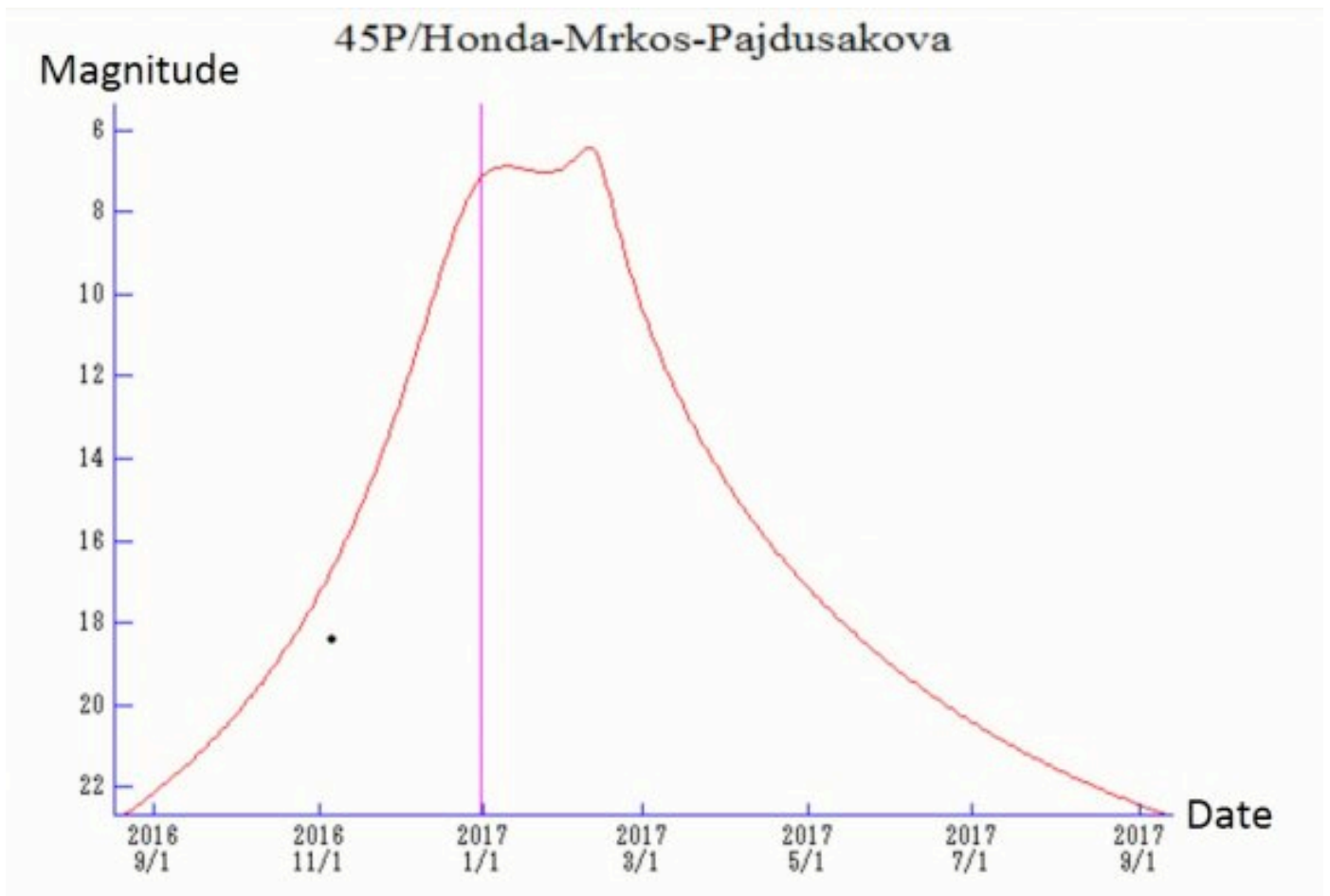
**Visibility prospects:** At its brightest, Comet 45P/Honda-Mrkos-Pajdušáková will be passing through the constellation Hercules during closest approach on February 11th. The comet then passes through the constellations of Corona Borealis, Boötes, Canes Venatici, Ursa Major into Leo through to the end of February as it recedes. In the second week of February, the comet is visible in the dawn sky 82 degrees west of the Sun at maximum brightness. This apparition favors the northern hemisphere. The comet will reach perihelion on December 29th, 2016 at 0.53 Astronomical Units (AU) from the Sun, and the comet passes just 0.08 AU (7.4 million miles) from the Earth on February 11th at 14:44 UT. The comet made a slightly closer pass in 2011, and was a fine binocular object that time around. At its closest, the comet will cross nine degrees of sky from one night to the next. Some notable dates for comet 45P/Honda-Mrkos-Pajdušáková are:

- December 12th:** May break 10th magnitude.
- December 15th:** Crosses into the constellation Capricornus.
- January 4th:** Passes near the +4th magnitude star Theta Capricorni
- January 10th:** Crosses the ecliptic northward.
- January 16th:** Passes into Aquarius.
- January 22nd:** Passes near NGC 7009, M72 and M73.
- January 25th:** Passes 8 degrees from the Sun and into the dawn sky.
- January 28th:** Crosses into Aquila.
- February 3rd:** Crosses the celestial equator northward.
- February 4th:** Passes 4' from the star +3.3 magnitude star Delta Aquarii.
- February 6th:** Crosses the Galactic equator.
- February 7th:** Crosses into Ophiuchus.
- February 9th:** Crosses into Hercules.
- February 16th:** makes a wide pass near M3.
- February 19th:** Drops back below +10th magnitude.



The path of Comet 45P/Honda-Mrkos-Pajdušáková through the inner solar system. Image credit: NASA/JPL. This is the final close (less than 0.1 AU) passage of Comet 45P/Honda-Mrkos-Pajdušáková near the Earth for this century.

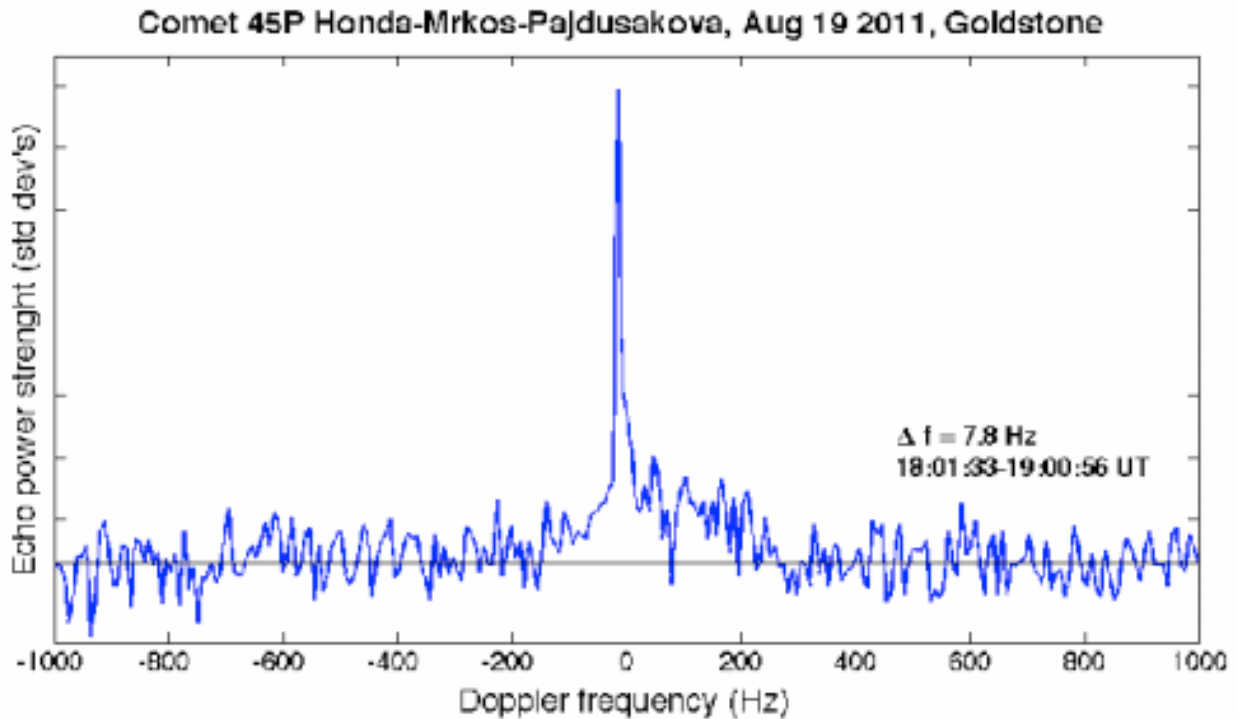
On July 1st 1770, Comet D/1770 L1 Lexell passed 0.0151AU from the Earth; a comet in 1491 may have passed closer. Next year's passage of 45P/Honda-Mrkos-Pajdušáková ranks as the 21st closest passage of a comet near the Earth.



The light curve of Comet 45/P Honda-Mrkos-Pajdušáková. Credit: Seiichi Yoshida's [Weekly Information About Bright Comets](#).

Why do comets end up with such cumbersome names? Well, comets derive their names from the first three discoverers that submit the find within a 24 hour period to the Minor Planet Center's Central Bureau for Astronomical Telegrams, which, in fact, received its last 'telegram' during the discovery of Comet Hale-Bopp around two decades ago. Increasingly, comets are receiving names of all sky surveys such as LINEAR and PanSTARRS from robotic competition against amateur hunters. It does seem like you need an umlaut or the chemical symbol for boron to in your moniker to qualify these days... rare is the 'Comet Smith.' But hey, it's still fun to watch science journalists try and spell the Icelandic volcano [Eyjafjallajökull](#) and comet [Churyumov-Gerasimenko](#) over and over... Perhaps, we should insist that our first comet discovery is actually spelled Comet Dickînsôn...

And Comet 45/P is just one of the fine binocular [comets on deck for 2017](#). We're also expecting Comet 41P/Tuttle-Giacobini-Kresák, [2/P Encke](#), C/2015 ER61 PanSTARRS Comet C/2015 V2 Johnson to break +10th magnitude next year... and the next great naked eye 'Comet of the Century' could light up the skies at any time.



Goldstone radar pings comet 45/P back in 2011. [Image credit](#): NASA.

Binoculars are the best tool to observe bright comets, as they allow you to simply sweep the star field and admire the full beauty of a comet, coma, tail(s) and all. Keep in mind, a comet will often appear visually *fainter* than its quoted brightness... this is because, like nebulae, that intrinsic magnitude is 'smeared out' over an extended area. To my eye, a binocular comet often looks like a fuzzy, unresolved globular cluster that stubbornly refuses to snap into focus.

Don't miss your first looks at Comet 45/P 45P/Honda-Mrkos-Pajdušáková, as it spans 2016 into 2017.