

STAR GAZERS
SG 1618 – 5M
May 2-8, 2016

The Transit of Mercury

JAMES: Welcome to Star Gazers. I'm James Albury, director of the Kika Silva Pla Planetarium in Gainesville, Florida.

DEAN: And I'm Dean Regas, astronomer for the Cincinnati Observatory. We're here to help you find your way around the sky. The astronomical event of 2016 is happening next week. And I have been waiting years to see it.

JAMES: It's not a planetary conjunction and it's not a lunar or solar eclipse. But it is something so rare that it only occurs 13 times every century.

DEAN: The tiny planet Mercury will go directly between us and the Sun. You'll be able to see Mercury completely silhouetted by the fusion-y furnace that is our Sun.

JAMES: It's called a Transit of Mercury and we'll get you ready to view this rare event safely, on May 9th. Let's show you!

(STOP & DROP)

DEAN: The date is Monday May 9th, and it is just before sunrise. If we're going to see Mercury pass in front of the Sun, that means we have to look during the daytime. So we'll go through the entire day to see what happens.

JAMES: First let's appreciate the sunrise. Night owls like Dean over there rarely see the beauty and grandeur of the sky at this time of day.

DEAN: Definitely beautiful!

JAMES: The Sun will rise north of east, move up and to the right, cut slowly and surely across the southern sky, and then set in the northwest. Did you notice anything?

DEAN: I sure didn't. I thought this Transit of Mercury was some awesome event! I didn't see anything out of the ordinary.

JAMES: That's because a Transit of Mercury is a subtle alignment that takes a skillful, savvy observer to witness. And one needs access to some extra equipment. Mercury is small after all, and staring at the Sun too long will strike you blind.

(STOP – Close-up)

DEAN: First you'll need a safe, solar filter. One that is approved by astronomers to look at the Sun. Do not use sunglasses, foil, CDs, film negatives, mylar, X-rays, or any homemade filter. They will not protect you.

JAMES: Solar eclipse glasses and #14 welder's glass would protect you from the Sun, but you'll need more than that to see Mercury that day. You'll need magnification.

(STOP)

DEAN: Mercury is so small compared to the Sun, that you will not be able to see it with the naked eye. That means you'll need to put safe filters on binoculars and telescopes to see it. Good filters go in front of the lenses or mirrors and block out the light before entering the telescope.

JAMES: Once you're properly outfitted, here's what the Sun will look like with a zoomed-in view. You'll first see Mercury at around 7:13 AM Eastern Daylight Time as a little black spot growing along the edge of the Sun. At 7:16 Mercury will appear completely inside the Sun's disc.

DEAN: To paraphrase a certain song, "There'll be a little black spot on the Sun this May."

JAMES: Indeed... Then you can watch Mercury slowly continue in its orbit around the Sun, and seem to pass through it, minute by minute, hour by hour. At 10:30 AM it will be about halfway through.

DEAN: Then at 2:38 PM Mercury starts heading off the Sun and three minutes later, Mercury is invisible once more. So a Transit of Mercury can last over seven hours, with the most exciting parts at the beginning and the end.

(STOP)

JAMES: If you don't have a safe solar filter and a telescope, contact your local astronomy club or planetarium. Chances are, they will be viewing this rare event and welcome guests. Astronomers, whether amateur or professional, love sharing the heavens with others. So see if your community is planning a Transit of Mercury party on May 9th.

DEAN: Finally notice that the Transit lasts from 7:13 AM to 2:41 PM Eastern Daylight Time. Please adjust your time accordingly. That means that people on the west coast will not see the beginning of the Transit. The Sun will not have risen at that time.

JAMES; But fear not, you'll still see hours of it before Mercury departs the Sun's disc. Star Gazers on the east coast will see the entire thing.

DEAN: I've waited to see this since November 8, 2006. That was the last Transit of Mercury and I got clouded out!

JAMES: And if you miss this one, the next Transit of Mercury won't be until November 11, 2019. In other words, on May 9th you better...

BOTH: Keep looking up!