

# 'Dirty snowball' Kohoutek to glow, not dazzle

By Steve Arvanette

Astronomers are calling it the "comet of the century," although a recent report said Comet Kohoutek (pronounced Kah-HOE-tek) may not be as bright as first predicted when it rounds the sun after Christmas.

Kohoutek now is visible in the early morning with the naked eye. According to Don Taylor, UNL associate professor of physics, the best viewing of the comet would be about 45 minutes before sunrise. Lincoln sunrise currently is about 7:30 a.m.

Taylor said those wanting to view Kohoutek should look about 20 degrees above the southeast horizon. Binoculars would be helpful in seeing the comet's tail, he said.

As Kohoutek speeds toward the sun, a glowing tail will grow behind it. Comets are composed of ice, gas and dust. But as they approach the sun, the "dirty snowball," as they have been called, begins to evaporate and glow. Radiation from the sun and solar wind, a stream of gas ejected from the sun, drive the dust particles behind to form the tail.

Kohoutek will grow brighter in the morning sky until about Christmas, when it will be too close to the sun for easy viewing. On Dec. 28, Kohoutek will have rounded the sun and begin its long trip into the outer solar system.

It was believed Kohoutek took somewhere

between 35,000 and 75,000 years to complete its orbit. Observations during the past two weeks indicate the gravitational pull of the planets has caused the comet to change its path somewhat.

Ralph Palsen of the Astronomical Society of the Pacific said the slight change means Kohoutek won't return for millions of years. He also was quoted as saying Kohoutek seems to be comprised mostly of dust, which means it won't be as bright as first thought.

According to *Sky and Telescope* magazine, Kohoutek has just passed the earth's orbital path.

But since Kohoutek actually will be closer to the earth on its outward trip, it will be brightest just after it rounds the sun.

Kohoutek has aroused much enthusiasm in astronomers for three reasons—its large size, its close approach to the sun, and its unprecedented forewarning.

The story began last March 7, when Lubos Kohoutek, an astronomer at the Hamburg Observatory in Bergendorf, West Germany, was photographing some asteroids he had discovered several years earlier.

Examination of the photographs made with the observatory's 31-inch telescope revealed a faint, hazy spot. Kohoutek assumed he had discovered a comet but was unaware of the impact of his discovery until

further study was made.

It was officially tagged comet 1973f, meaning it was the sixth comet to be discovered during the year. However, in recent months it has gained such names "comet of the century" and the "Christmas comet."

It is sure to be one of the greatest astronomical sights to be seen by man this century, surpassing even Halley's comet, which last circled the sun in 1910. That comet is not due back again until 1986, following a steady 76-year orbital cycle.

But as happens on each return of Halley's comet, Kohoutek will be severely drained of its dust and gassy matter by such a close brush with the sun.

According to Taylor, who teaches astronomy at UNL, there are three basic reasons why astronomers are concerned with comets.

One of the reasons for studying comets, he said, is that they may help unlock some of the secrets about the creation of the solar system. Comets travel from the fringes of the solar system and their contents can be analyzed when they are vaporizing through spectrographic study.

The other area of comet study is how magnetic fields affect the comet's path as it travels through planetary regions.

"The main interest in comets is for their own sake," Taylor said. "They are unusual. We don't see them that often."

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