



Sun. Apr 8, 2001

News

Missions/Launches

Science/Astronomy

Astronomy

Solar System

Planet Earth

General Science

SpaceWatch

Virtual Space Tour

Constellation Quiz

SETI: Search for Life

Photos/Videos

SpaceTV

Business/Technology

Science Fiction

Entertainment

Games

SpaceKids

People

Message Boards

TeachSpace

Reference

Spaceshop

science/astronomy



### Comet's Fragility Shocks Scientists

By Michael Paine  
Special to SPACE.com  
posted: 04:03 pm ET  
04 August 2000

The break-up of [Comet Linear](#) as it swept past the sun last week has shocked astronomers into rethinking theories of the origins of such rocky ice balls in ways that could reduce the threat of a collision course with Earth.

Though astronomers say they need more time to analyze [Hubble Space Telescope](#) and [Jacobus Kapteyn Telescope](#) images of the disintegrating Linear, they hope to soon have a greater understanding for how cometary nuclei are put together.

Far beyond just the interests of academia, this knowledge could affect all of humankind. If, for example, a different comet were found to be directly en route to Earth, would the rogue comet withstand a [nuclear-bomb blast](#) that would deflect it away from our planet? Earth-defense deflection methods such as nuclear blasts might not work on something as fragile as Comet Linear.

**Comet Linear**  
Comet Linear comes from the outer reaches of the solar system, a quarter of the way to the nearest star. See an [animation of the Comet Linear](#).

[Blasting](#) a more solid object, like an asteroid or even a smushy comet, could have serious repercussions. Many of the fragments could remain on a collision course and, like the blast from a shotgun, the fragments could do up to 10 times as much damage as the original, intact object.

more stories  
[Hubble, Spanish Observatory Catch Comet Linear Breaking Up](#)

[Summer Skyshow 2000: Comet LINEAR Arrives](#)

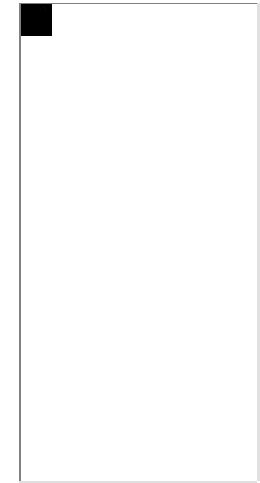
[Comet LINEAR Tracking Page](#)

[Four Astronomical Treats Coincide This Weekend](#)

images

19-minute time-lapse sequence of Comet LINEAR-S4, taken on July 2, 2000. Click to watch animation. Credit: Wil Milan

related links  
[SPACE.com Special Report: Comet Linear](#)



[XCam2 Amazing Wireless Video Camera for under \\$80 Special Limited Time Offer!](#)



Search

Free U

enter y

Free E

you@spa  
Access y

Space

Search fo  
now

Visit the  
Space  
Paris Ai

Astron  
Softwa



Something  
every tim

Space



Your guide  
sky

SETI



Join the s  
at SPACE

### Comet Linear

Linear comes from the outer reaches of the [solar system](#) -- a quarter of the distance to the nearest star. Analysis of its orbit suggests it has been plunging toward the sun for millions of years. Last September, the [LINEAR telescope](#) in New Mexico detected the comet out beyond the orbit of Jupiter. With its highly sensitive automated search system, the scope is designed to detect near-Earth asteroids and observe their behavior. Occasionally, it also picks up a comet.

#### Strange behavior

Comet Linear's behavior is very strange. As it moved closer to the sun, chunks of the comet started flying off. By then, many large telescopes were pointed at the object, including the [Hubble Space Telescope](#).

1 [2](#) | [Continue with this story >](#)

---

#### FUTURE SPACE

Coming Monday! SPACE.com and Space News present the new Space News Business Report. The all-new business and policy news service with up-to-the-moment reports from around the world!

---

#### More to Explore

- [NEW! Check out our Incredible Views from Space!](#)
- [Photo Galleries](#)
- [Virtual Space Tour](#)
  
- [SPACE.com home](#)
- [Back to top](#)
- [E-mail this story to a friend](#)
- [Share your comments, suggestions or criticisms on this or any SPACE.com experience.](#)

[about us](#) | [sitemap](#) | [space links](#) | [contact us](#) | [advertise](#)

©2000 SPACE.com, inc. ALL RIGHTS RESERVED.  
You can read our [privacy statement](#) and [terms of service](#)