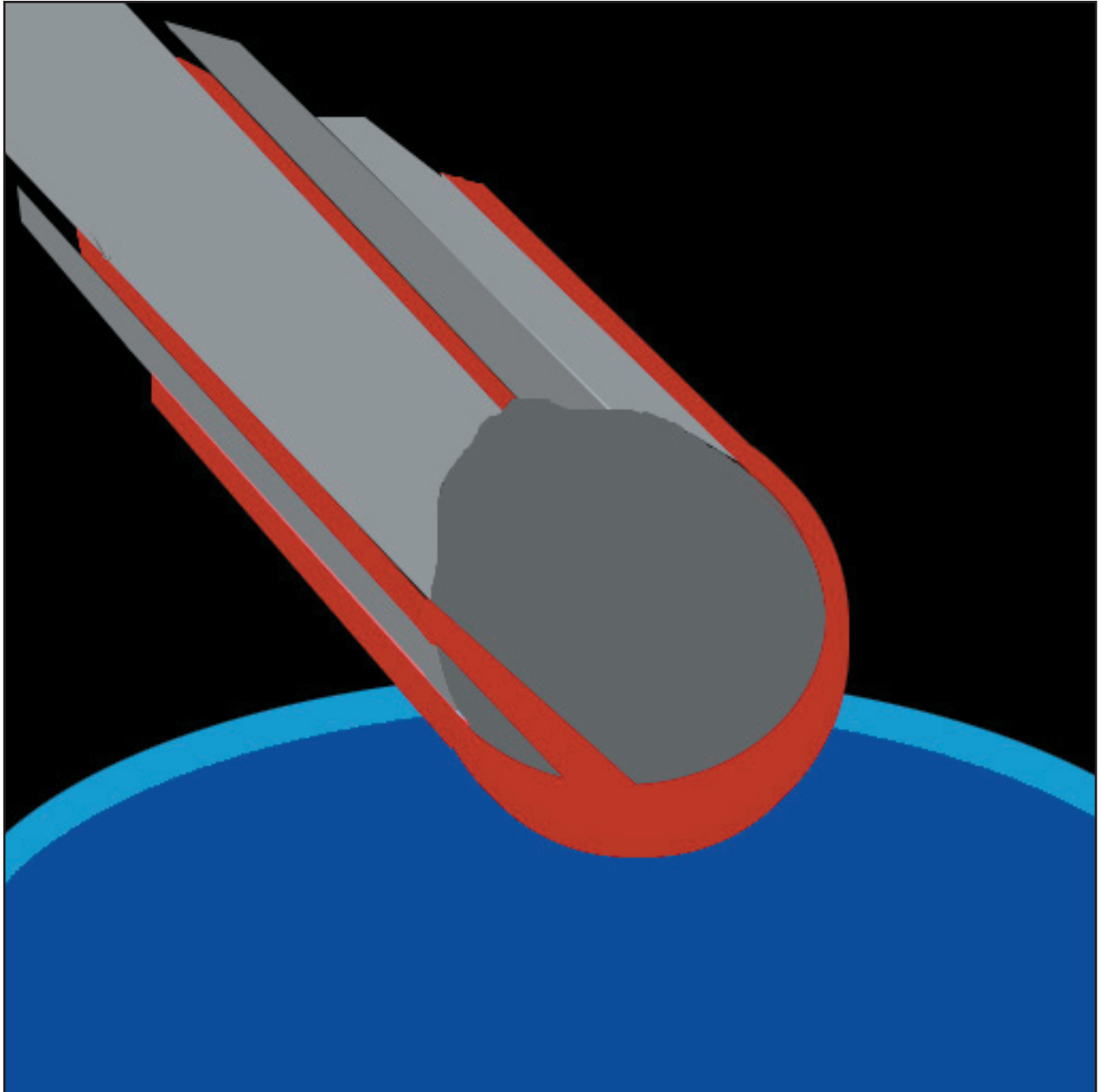


iNEO

Asteroid closest to earth

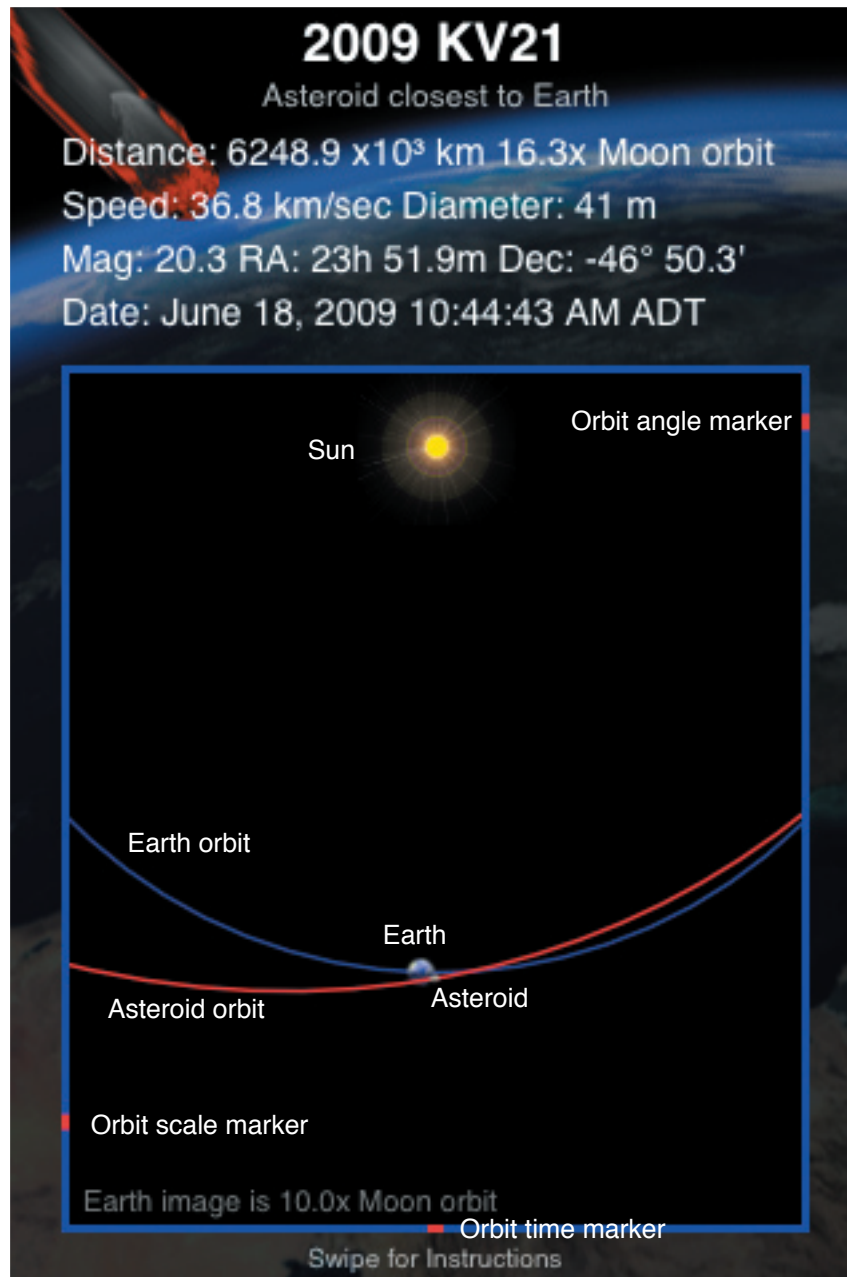


Microprojects

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July 2009

The iNEO iPhone and iPod touch application downloads the current Minor Planet Center (MPC) database for Near Earth Objects (NEO). This database contains orbital data on all the known asteroids that have orbits close to the earth. This application calculates where all these asteroids are and displays the orbit and information for the one that is currently closest to the earth.



If you drag your finger up and down on the right side of the orbit area you can change the orbit angle of view. Drag all the way up (the default) and you are looking straight down at the orbit. Drag all the way down and you are looking along the orbit path. On the left side of the orbit area you can drag to change the scale. At the default position the earth image is ten times the moon's orbit. All the way down and the earth is 30 times the moon's orbit. All the way up and the earth is equal to the moon's orbit. The actual size of the earth is less than one pixel. If you drag back and forth along the bottom of the orbit area you can move back and forward in time to see how the asteroid and earth move along their orbits. A double tap will restore the orbit display to its default settings. If you rotate your iPhone/iPod horizontal the orbit expands to fill the entire screen. The asteroid's diameter is calculated based on absolute magnitude and can be in error by a factor of two.

2009 KV21
Asteroid closest to Earth

Distance: 6248.9 x10³ km 16.3x Moon orbit
Speed: 36.8 km/sec Diameter: 41 m
Mag: 20.3 RA: 23h 51.9m Dec: -46° 50.3'
Date: June 18, 2009 10:44:43 AM ADT

Double-Tap = reset orbit.
Drag up/down left to zoom.
Drag up/down right for angle.
Drag left/right bottom for time.

Update **Imperial** **List**

Data courtesy Minor Planet Center
Earth image courtesy NASA
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Swipe for Instructions

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Closest Asteroids

2009 KV21, 0.0418 AU

(136617), 0.0435 AU

2009 LE, 0.0456 AU

2008 WM64, 0.0589 AU

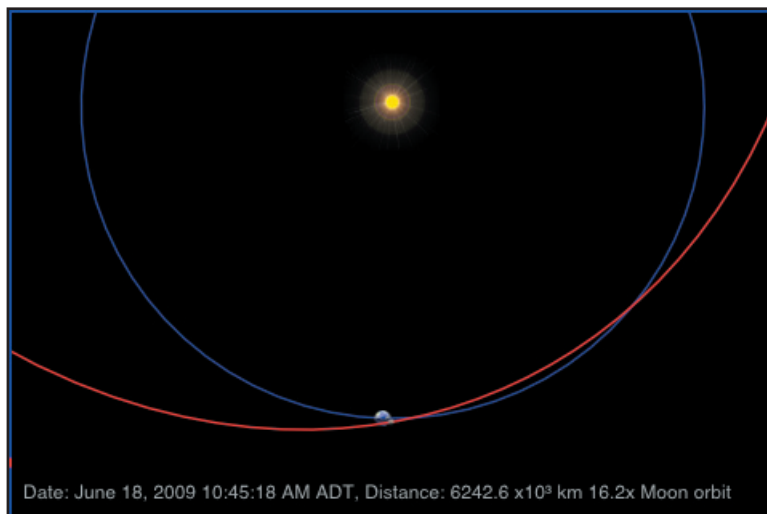
2001 FE90, 0.0607 AU

2009 LD, 0.0827 AU

Swipe for Instructions

When you swipe in the orbit area the flip side is displayed. Basic instructions are listed and the Update button is visible. If you are connected to the internet this button will download the latest NEO database and process all the asteroids. It is a good idea to update this database frequently.

The List button will display a list of the closest 25 asteroids with their distance from earth in astronomical units. You can select any asteroid from the list to see all the information about that asteroid and its orbit. The Metric/Imperial button allows you to view distances in metric or imperial units.



The Near Earth Object (NEO) data is provided courtesy of the Minor Planet Center. The database file is downloaded from: www.cfa.harvard.edu/iau/Ephemerides/Unusual/Soft00Unusual.txt. This file usually contains data for about 600 asteroids and is updated daily.

The earth image used for the iNEO background is courtesy NASA.

Icon design by Shirley Kathan-Sayess (www.sayessdesign.com).