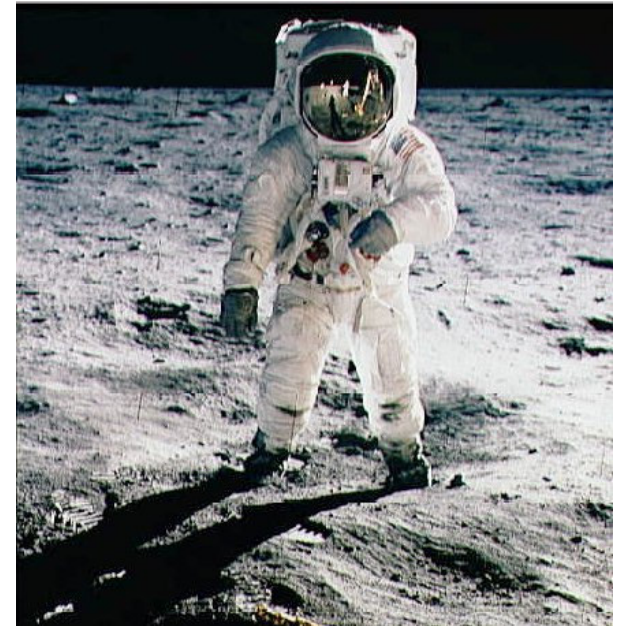


# Ch 22.3 Earth's Moon

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- The Moon is Earth's only natural satellite. The diameter of the Moon is about 2,160 miles, about one fourth the size of the Earth.
- The Moon is the only world other than the Earth that man has been on. The first humans on the Moon was the American Apollo 11 astronauts who landed on July 20, 1969.
- The telecast of Neil Armstrong descending the lunar module ladder just prior to taking his first step on the moon. As Armstrong stepped onto the moon's surface he proclaimed, "That's one small step for man, one giant leap for mankind".
- Geologists classified the moon rocks as igneous, possibly from a lunar volcanic flow or from a large meteorite crashing into the moon. Some of the rocks picked up by the astronauts had rested undisturbed on the lunar surface for a million years or more.



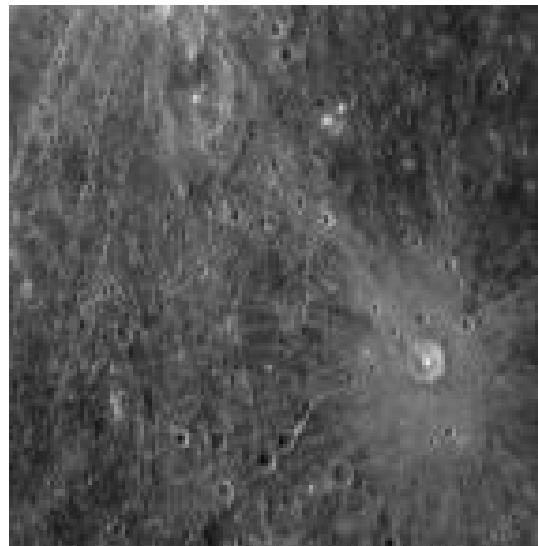
# The Apollo 15 Hammer-Feather Drop

- At the end of the last Apollo 15's moon walk, Commander David Scott (in the picture below) performed a live demonstration for the television cameras.
- He held out a geologic hammer and a feather, and dropped them at the same time. Because they were essentially in a vacuum, there was no air resistance and the feather fell at the same rate as the hammer, as Galileo had concluded hundreds of years before - all objects released together fall at the same rate regardless of mass.
- Within the accuracy of the simultaneous release, the objects were observed to undergo the same acceleration and strike the lunar surface simultaneously, which was a result predicted by well-established theory.

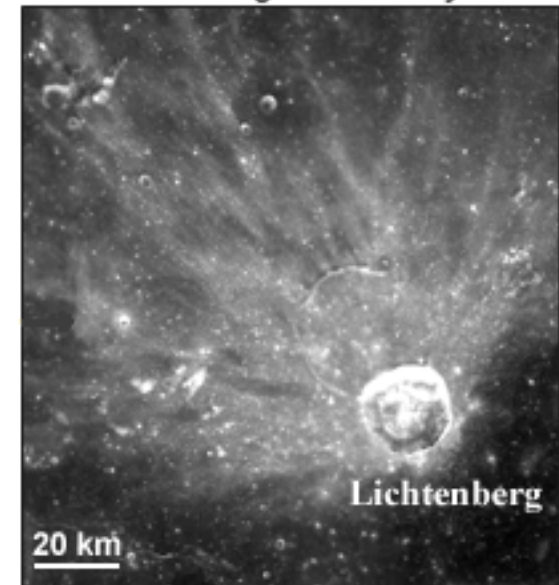


## Moon Craters

- The Moon does not have an atmosphere. Because of that, incoming meteoroids do not burn up. So all will hit the Moon's surface creating devastating craters.
- Lunar crater rays are those obvious bright streaks of material that we can see extending radically away from many impact craters. Young craters show rays.
- Material extracted out of a crater lands near the crater, building a rim around it.



*Lichtenberg Crater Rays*



Clementine 750 nm image (albedo)