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The Moon: The Earth's natural satellite.

Credit: Optical: Robert Gendler; X-ray: NASA/CXC/SAO/J. Drake et al.

Chandra's image (right) of the bright portion of the Moon reveals fluorescent X-rays from oxygen, magnesium, aluminum and silicon atoms produced when solar X-rays bombard the Moon's surface. Determining the amounts and distribution of these elements over a large area will help to test the popular theory that the Moon formed after a large body about the size of Mars hit the Earth about 4.5 billion years ago. Chandra observations have also solved a decade-long mystery about X-rays that were thought to have come from the dark portion of the Moon. These X-rays are due to ions from the Sun colliding with atoms in the Earth's extended outer atmosphere.

Scale: Radius is about 17 arcmin.

Chandra X-ray Observatory ACIS Image