

Detection of lunar lava tube on multispectral images taken by Clementine spacecraft.

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Lunar lava tube has been suggested to be ideal for locating a lunar base. The existence of lunar lava tubes, however, has been only suggested from morphology of lunar lava channel. Because the lava tube is closely tied with the channel, the lava tube is likely distinct from the surrounding mare material spectrally. Then we have produced color-ratio composite from Clementine multispectral images. The color-ratio composite seems to indicate the difference of mineral composition between lava tube and the mare, although an artifact due to mis-matching of paired images is possible as well. We also estimate Fe abundance and maturity of the lava tube following Lucey et al. [1998]. We have found that the maturity is low at the lava tube implying the youngest unit in the mare.