

McLean Sec10 Ex6

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6 Explain the difference between image enhancement and image restoration.

Image enhancement

- improve images for better visualization
- stretch, filter and false-color digital images

Image restoration

- the recovery of damaged images from raw data
- deconvolution theory and Bayesian probabilities
- common way of image analysis used in UV-visible-IR astronomy

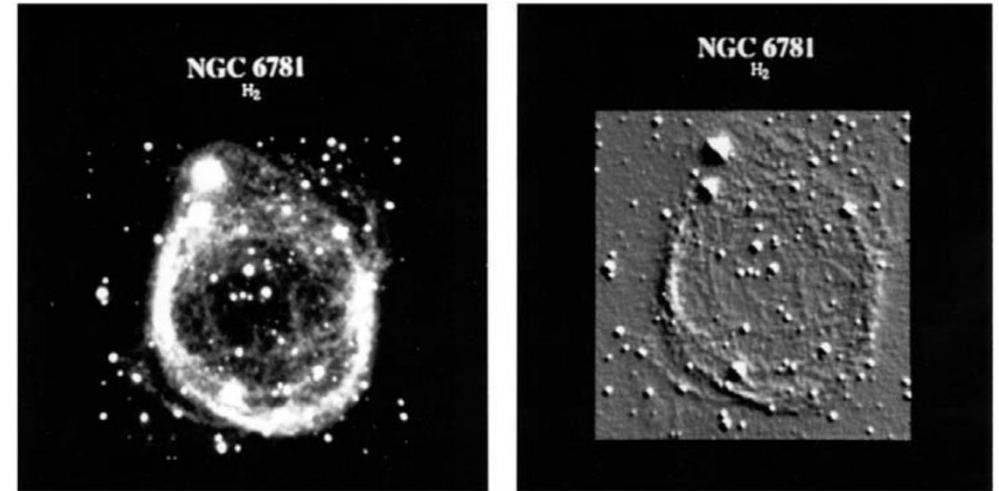


Figure 10.8. A display that has been (left) stretched with a logarithmic scale, and (right) treated to enhance sharp features using bas-relief.

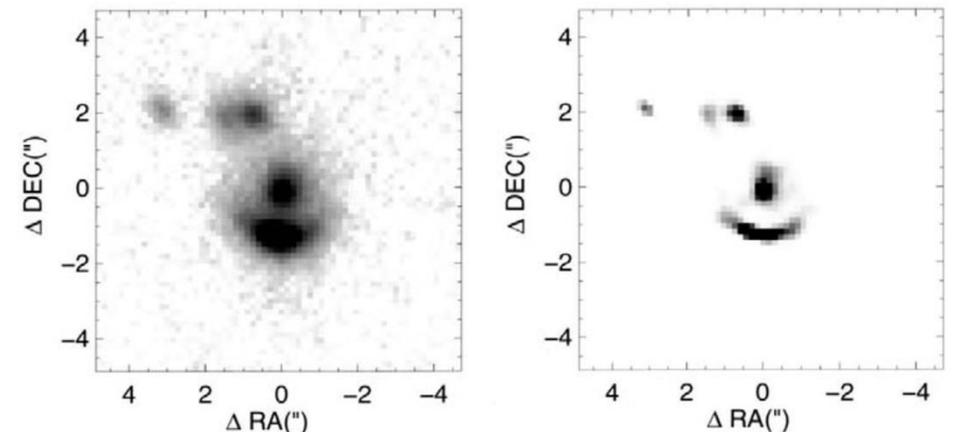


Figure 10.10. An infrared image (left) from the Keck telescope under excellent seeing conditions showing a peculiar arc near the galaxy FSC 10214+47241. Image restoration using MEM reveals that the arc is part of an “Einstein ring” due to gravitational lensing of light from a more distant object by the galaxy in the foreground. Credit: James Graham.