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The Great Observatories: New Windows into the Universe

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Since Galileo's time, our ability to study the universe has been driven by our ability to collect light from distant objects. Due to tremendous technological advances in the last few decades, we can now study the most distant galaxies known in the universe. In addition to seeing fainter objects at higher resolution, we can also view the universe at many different wavelengths ranging from gamma rays to radio waves. I briefly review the major advances that have been made with, e.g. the Keck telescope, Hubble Space Telescope, and Wilkinson Microwave Anisotropy Probe (WMAP), and discuss why we need to continue pushing our observational limits by developing and building new telescopes.