THE SCIENCE

HOW GAMMA RAY TELESCOPES WORK

- A gamma ray enters the telescope, passing through the Anti-coincidence Detector

- The gamma ray interacts in one of 16 thin tungsten sheets. This interaction converts the gamma ray into an electron and a positron via pair production

- The Tracker uses silicon strips to measure the paths of the electron and positron, allowing the telescope to determine the arrival direction of the gamma ray

- The electron and positron enter the Calorimeter, which measures the energies of the particles, and therefore the energy of the original gamma ray

- Unwanted cosmic-ray particles produce a signal in the Anti-coincidence Detector, which tells the Data Acquisition System to reject the signal. The Anti-coincidence Detector rejects 99.97% of unwanted signals produced by cosmic rays that enter the telescope

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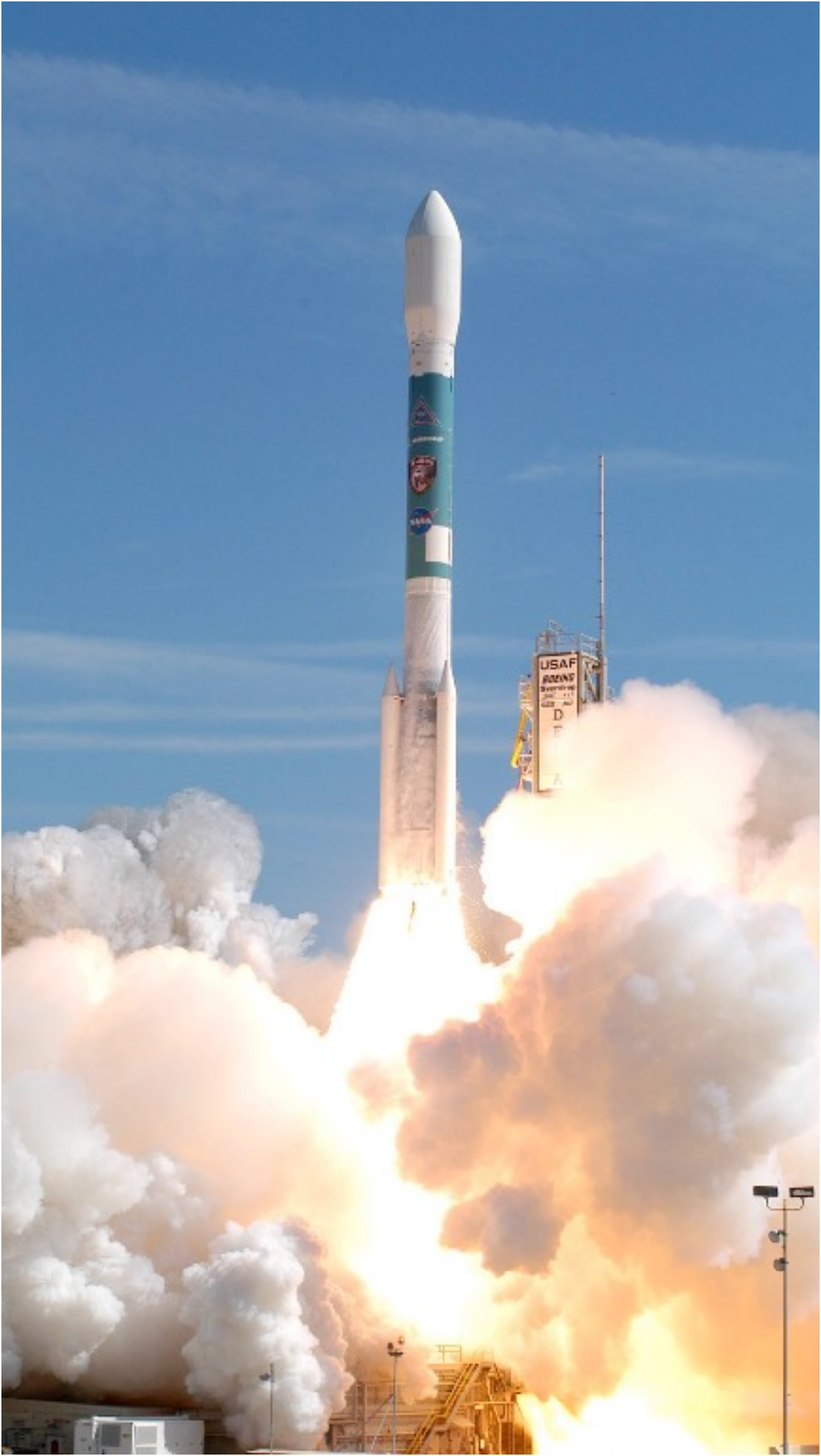
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GAMMA RAY

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