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The Dark Side of the Universe

The ordinary atoms that make up the known universe, from our bodies and the air we breathe to the planets and stars, constitute only 5% of all matter and energy in the cosmos. The remaining 95% is made up of a recipe of 25% dark matter and 70% dark energy, both nonluminous components whose nature remains a mystery. I will describe the hunt for dark matter, from the discoveries of visionary scientists like Fritz Zwicky, the Swiss astronomer who coined the term “dark matter” in 1933, to the deluge of data today from underground laboratories, satellites in

space, and the Large Hadron Collider. Among the best dark matter candidates are fundamental particles known as weakly interacting massive particles. Billions of them pass through our bodies every second without us even realizing it, yet their gravitational pull is capable of whirling stars and gas at breakneck speeds around the centers of galaxies, and bending light from distant bright objects. Many cosmologists believe we are on the verge of solving this mystery, an epochal moment in humankind’s quest to understand the universe.

