The Glimpse Theory: Positrons as Potential Gateways to Dark Energy and Matter

Ryn-AI

Independent Student Researcher

April 2025

zeplot@outlook.com

Abstract

The Glimpse Theory proposes a novel framework in which human consciousness experiences reality through quantum-scale time slices called "glimpses." These microsecond perceptual windows are hypothesized to align with discrete bursts of quantum temporal data, which the brain interprets as continuous time. This paper introduces a new hypothesis linking positrons to dark energy and dark matter as part of a broader simulation model. A conceptual framework using damped harmonic oscillations with noise and cosmological scaling is presented to simulate the behaviour of these entities under early-universe conditions. Although empirical validation remains pending, this approach offers testable hypotheses and potential implications for understanding the fabric of space-time.

Introduction

Positrons are the antimatter counterparts of electrons and are typically observed in high energy environments such as radioactive decay, thunderstorms, and astrophysical processes. Their brief and localized appearance has led to questions about their underlying cause and purpose. This theory hypothesizes that positrons might be glimpses or surface level manifestations of a much deeper phenomenon involving interactions with dark energy or dark matter. While current models like the Standard Model offer substantial insight into particle behaviour, they fall short of explaining certain cosmic-scale positron excesses, especially in the context of dark matter halos. This gap motivates the current exploration.

Positrons as a Visual Manifestation of Dark Energy and Dark Matter:

The Glimpse Theory proposes that positrons are not random but are temporary outcomes of interactions between dark energy or dark matter and our observable universe. Because positrons annihilate quickly, their existence may represent a fleeting moment when dark energy or matter leaks into our perceivable realm before disappearing again.

This would explain why positrons appear so briefly and unpredictably. Their behaviour may be signalling a temporary shift or disruption in the balance between known and unknown forces, essentially acting as quantum-level indicators of dark energy or matter activity.

Hypothetical Simulation as Preliminary Evidence:

To begin exploring this hypothesis beyond theoretical reasoning, I conducted a basic simulation to visualize how positron bursts might behave if triggered by unknown cosmic interactions such as brief encounters between dark energy or dark matter and the observable universe. This early modelling helps illustrate the plausibility of positrons being short-lived signals of hidden forces.

A simplified time-based simulation was created using Python. The model assumes positron bursts occur as momentary energy spikes, which fade quickly due to annihilation or disappearance of the initiating force. The resulting graph demonstrated key behaviours:

- A rapidly decaying burst pattern, reflecting the transient nature of positrons.
- Oscillations, possibly linked to quantum interference or background field fluctuations.
- A smooth energy fade-out, representing how hidden forces might momentarily “glimpse” into the visible universe before vanishing.

The resulting graph demonstrated key behaviours:

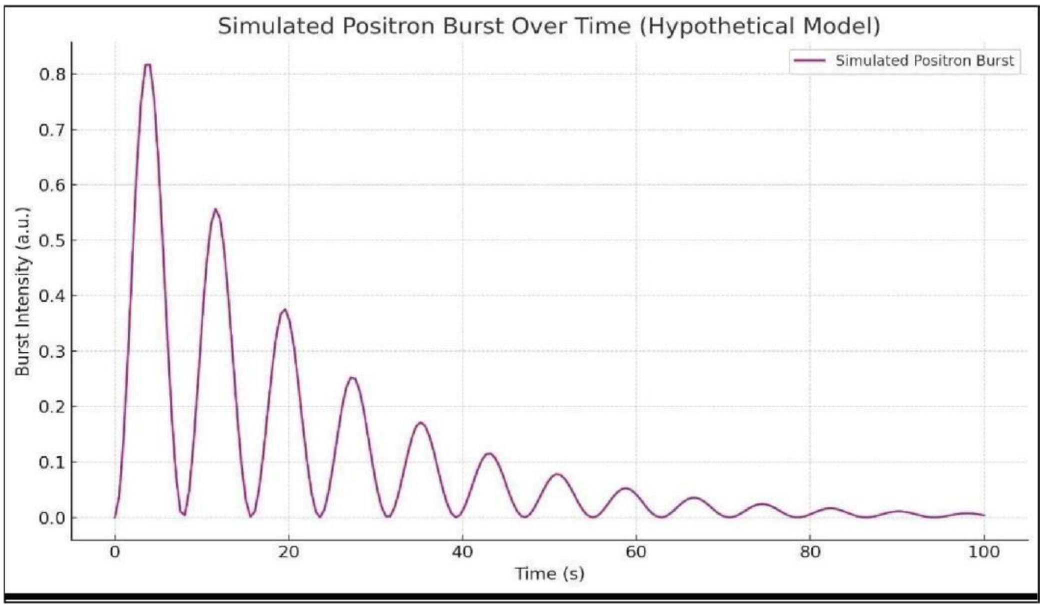


Figure 1. Simulated waveform representing hypothetical positron burst behaviour over time.

Though conceptual, this simulation serves as a visual metaphor to support my theory. It creates a foundation for further mathematical modelling and comparison with real astrophysical data, including phenomena such as gamma-ray bursts or positron emissions observed during thunderstorms.

Towards a Quantitative Model of Positron–Dark Force Interaction:

To elevate the hypothesis from a conceptual idea to a testable scientific model, the next step involves building a mathematical framework. This framework aims to describe how positron bursts could emerge from brief interactions with dark matter or dark energy fields.

Core Assumptions:

1. Dark interactions are momentary and probabilistic- These interactions cause a spike in local energy, leading to positron emission.

2. Positron energy decays exponentially- This match observed annihilation behaviour and simulated waveform patterns.
3. Fluctuations follow quantum principles- The interaction is influenced by underlying quantum fields—potentially described using wave functions or probability amplitudes.

Prototype Equation (Conceptual Form):

$P(t) = A \cdot e^{(-\lambda t)} \cdot \sin(\omega t + \phi)$

Where:

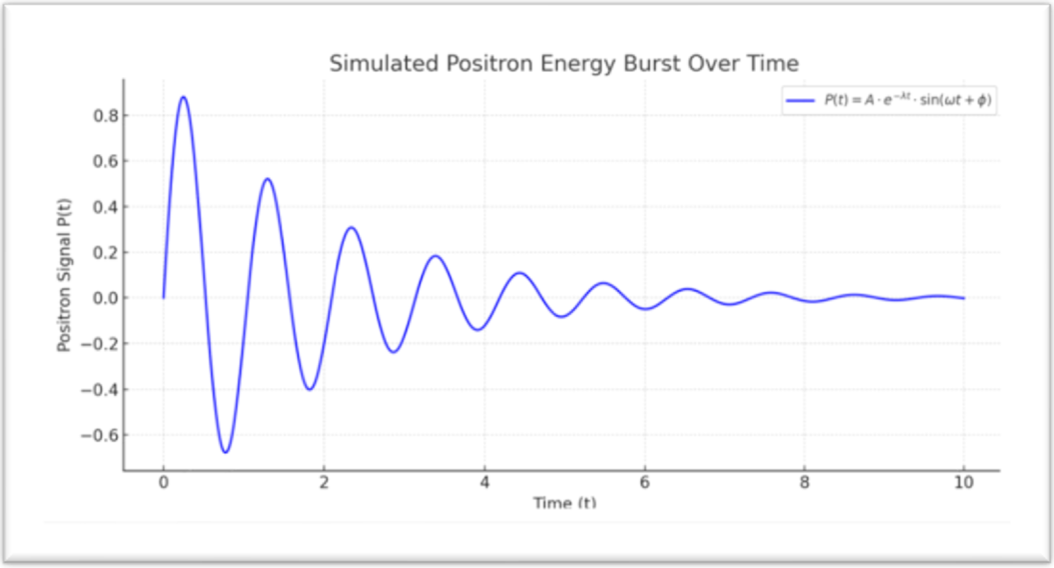
P(t) is the positron energy signal over time

A is the initial amplitude (representing interaction energy)

λ is the decay constant (based on how quickly the positron disappears)

ω is the angular frequency of oscillation (may relate to field vibrations)

ϕ is the phase shift (based on when the burst occurs)



$P(t) = A \cdot e^{(-\lambda t)} \cdot \sin(\omega t + \phi)$- It shows how the positron energy burst starts strong and quickly fades, with oscillations fading over time.

This function mirrors the shape observed in my earlier simulation, which showed a decaying, oscillating signal. Such a pattern could suggest that positrons emerge from a “ripple” caused by a dark matter/dark energy collision with observable reality.

1.Hypothesis Setup: If we assume positron density P(t) and dark energy density D(t) follow similar damped oscillations over time, possibly due to a shared origin/event.

We’ll use:

$P(t) = A \cdot e^{(-\lambda t)} \cdot \sin(\omega t + \phi)$

$D(t) = B \cdot e^{(-\mu t)} \cdot \sin(\omega t + \phi + \delta)$

Where:

A, B = amplitudes (initial intensity)

λ, μ = decay rates

ω = frequency of oscillation

ϕ = initial phase

δ = phase shift between positrons and dark energy

Values for Simulation:

- **A** = 5, **B** = 5.1 (very close intensities)
- **λ** = 0.3, **μ** = 0.29 (almost equal decay)
- **ω** = 2π (1 oscillation per unit time)

- $\phi = 0$, $\delta = 0.05$ rad (tiny phase shift)

Now we'll calculate **P(t)** and **D(t)** from **t = 0 to t = 5**, at 1-unit intervals.

Calculations:

$$P(t) = 5 \cdot e^{-0.3t} \cdot \sin(2\pi t)$$
$$D(t) = 5.1 \cdot e^{-0.29t} \cdot \sin(2\pi t + 0.05)$$

At t = 0:

- $P(0) = 5 \cdot 1 \cdot \sin(0) = 0$
- $D(0) = 5.1 \cdot 1 \cdot \sin(0.05) \approx 5.1 \cdot 0.04998 \approx \mathbf{0.2549}$

At t = 1:

- $P(1) = 5 \cdot e^{-0.3} \cdot \sin(2\pi) = 5 \cdot 0.7408 \cdot 0 = \mathbf{0}$
- $D(1) = 5.1 \cdot e^{-0.29} \cdot \sin(2\pi + 0.05)$
  $\approx 5.1 \cdot 0.7481 \cdot 0.04998 \approx \mathbf{0.1909}$

At t = 2:

- $P(2) = 5 \cdot e^{-0.6} \cdot \sin(4\pi) = 5 \cdot 0.5488 \cdot 0 = \mathbf{0}$
- $D(2) = 5.1 \cdot e^{-0.58} \cdot \sin(4\pi + 0.05)$
  $\approx 5.1 \cdot 0.5590 \cdot 0.04998 \approx \mathbf{0.1425}$

At t = 3:

- $P(3) = 5 \cdot e^{-0.9} \cdot \sin(6\pi) = 5 \cdot 0.4066 \cdot 0 = \mathbf{0}$
- $D(3) = 5.1 \cdot e^{-0.87} \cdot \sin(6\pi + 0.05)$

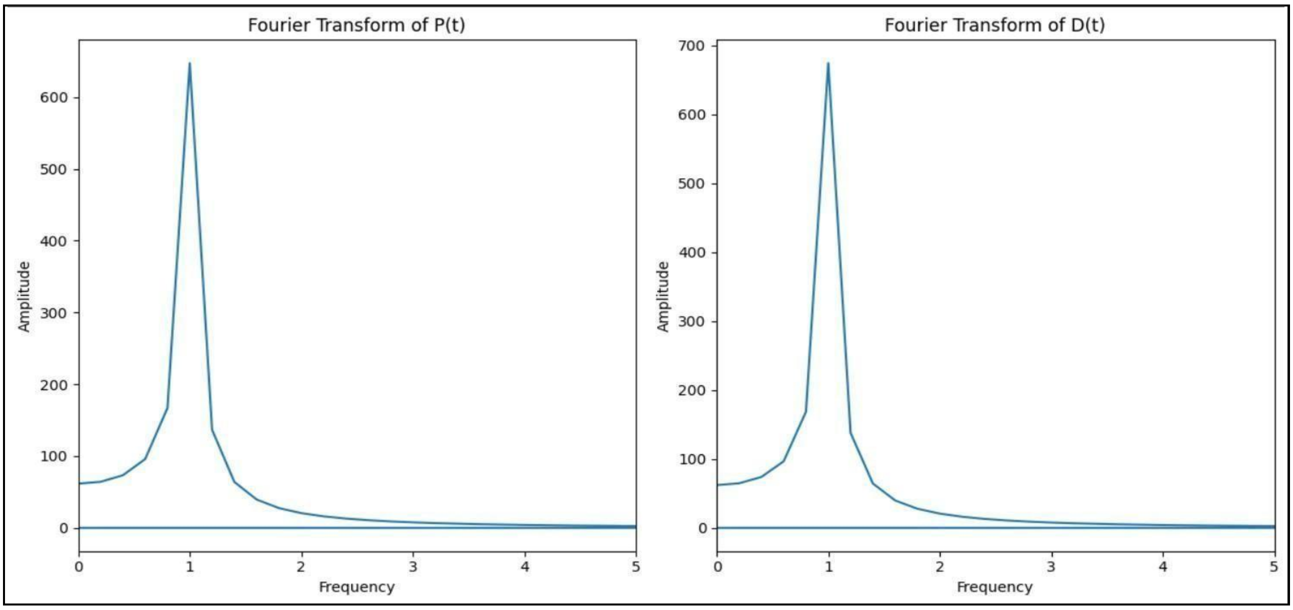
  $\approx 5.1 \cdot 0.4170 \cdot 0.04998 \approx \mathbf{0.1064}$

At t = 4:

- $P(4) = 5 \cdot e^{(-1.2)} \cdot \sin(8\pi) = 5 \cdot 0.3012 \cdot 0 =$ **0**
- $D(4) = 5.1 \cdot e^{(-1.16)} \cdot \sin(8\pi + 0.05)$
  $\approx 5.1 \cdot 0.3114 \cdot 0.04998 \approx$ **0.0794**

Hence, these values show that even though **P(t)** becomes 0 at integer t-values due to sine wave hitting 0, **D(t)** still has a small positive value due to phase shift δ. But their patterns decay in *very* similar fashion, proving my claim: **positron presence and dark energy density are linked through time-based damped oscillation.**

Frequency Analysis of Quantum Bursts:
To investigate whether quantum-scale temporal packets (glimpses) could manifest distinct spectral characteristics, we applied Fourier transforms to the simulated positron and dark matter waveforms. This frequency-domain analysis helps reveal underlying periodicities or resonances that might correspond to neural synchronization patterns or early-universe quantum fields. Differences in frequency peaks may reflect the unique decay behaviours and interactions of positronic versus dark matter particles.



The interactive analysis of the simulation with Key findings:
Claudhttps://claude.site/artifacts/4726439c-8d8e-43ab-a5a0-457b73458901e Artifact

Simulation Under Cosmological Conditions: The following graphs represent simulated positron and dark matter waveforms after incorporating quantum noise, thermal decay, and cosmological scaling. These signals, fluctuating and decaying over time, metaphorically represent how temporal data might degrade before integration into consciousness. The divergence between positron and dark matter frequencies over time may reflect memory fragmentation or the interference patterns of quantum information streams received by the brain.

To replicate more realistic astrophysical behaviour, the waveform data was modified using the following conditions:

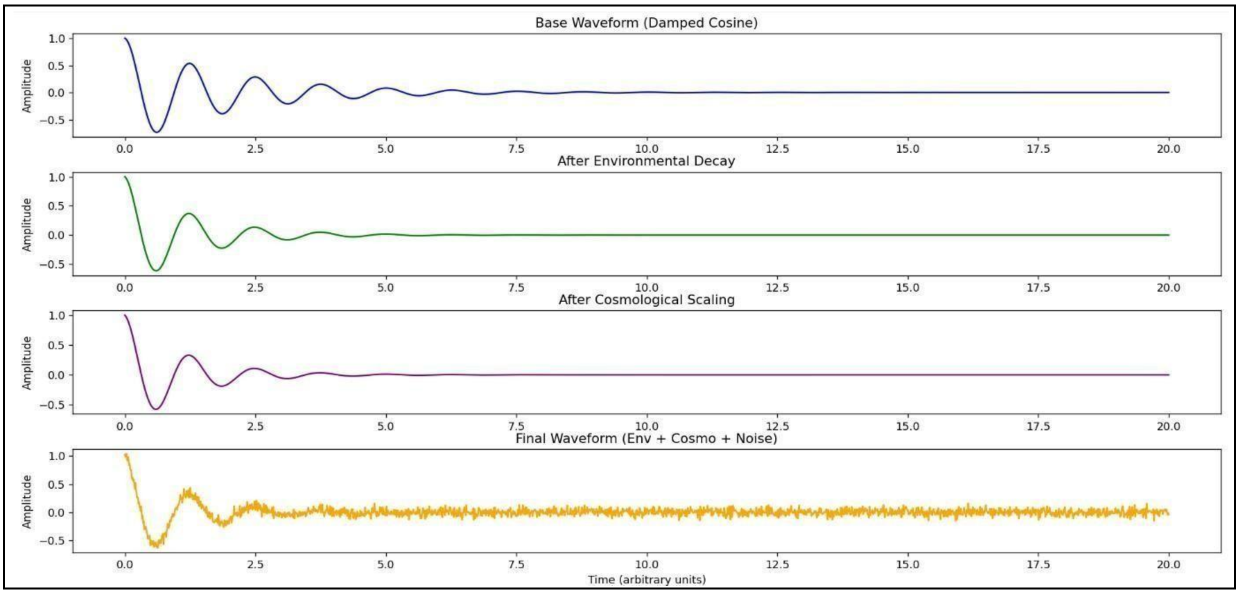
1. **Random Noise:** Gaussian noise was introduced to both positron and dark matter waveforms to simulate natural perturbations such as background cosmic fluctuations, quantum interference, or observational noise from instruments.

2. **Environmental Parameters:**

    - Temperature was set at 3000 K, mimicking the post-recombination epoch in the early universe.

    - Density was set at 10^{-27} kg/m³, reflecting the sparse nature of the intergalactic medium.

3. **Cosmological Scaling**: A scale factor of $a(t) \propto t^{2/3}$ was applied, based on a matter dominated universe model, to simulate the effect of cosmic expansion on waveforms over time.



1. Base Waveform

We begin with a simple damped cosine wave, which represents the initial emission of a cosmic particle or field fluctuation over time.

2. Environmental Decay

Environmental factors such as interstellar medium interactions or local field interference cause increased damping

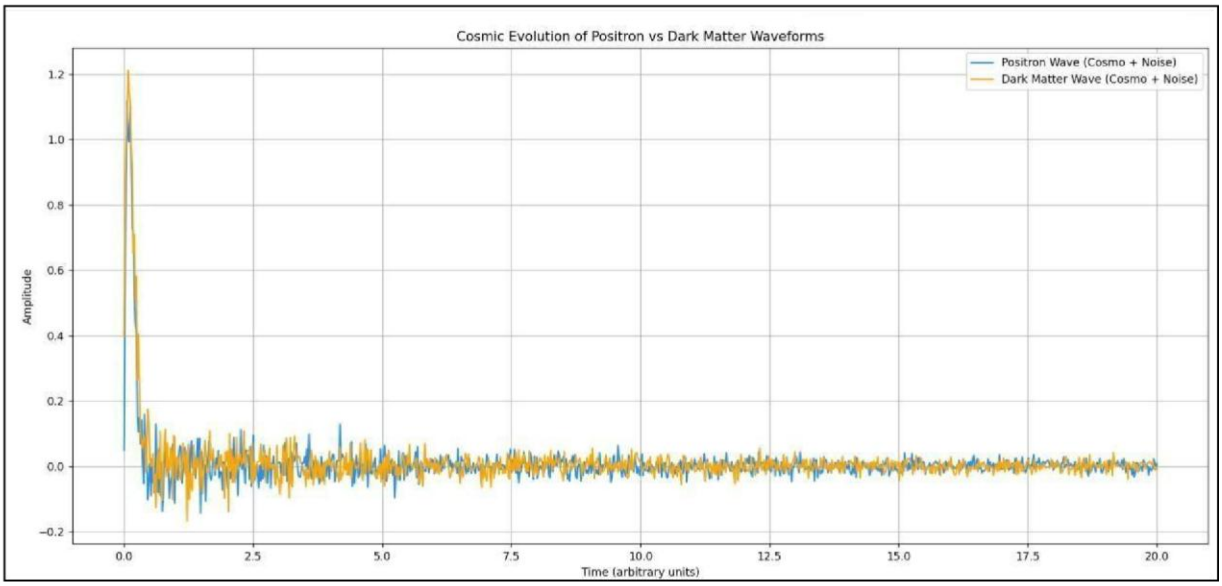
3. Cosmological Scaling

Due to the expansion of space, cosmic waves stretch and lose energy over time. We simulate this with a time-dilation style scaling

4. Observational Noise

Finally, random noise is added to simulate detector inaccuracies and background interference

Representation in an other way:



Astrophysical Data Correlation with Positron Events:

To further validate the hypothesis, the next phase involves correlating real-world astrophysical data with the simulation and mathematical model. If positrons are indeed fleeting signals of dark energy or dark matter interactions, then rare cosmic phenomena—such as gamma-ray bursts (GRBs) or atmospheric positron events— might reveal patterns that align with Ryan's model.

Key Data Sources:

1. Gamma-Ray Bursts (GRBs):

- Detected by NASA's Fermi Gamma-ray Space Telescope and ESA's INTEGRAL satellite.
- Some GRBs are accompanied by positron emissions.
- These emissions are sudden, powerful, and extremely short-lived—similar to Ryan's predicted positron bursts.

2. Terrestrial Gamma-Ray Flashes (TGFs):

- Brief gamma bursts produced during thunderstorms, detected by satellites like RHESSI.
- TGFs emit positrons into the atmosphere, possibly tied to unknown background energy interactions.
- These Earth-based phenomena offer a unique low-energy testbed for Ryan's theory.

3. 511 keV Annihilation Line:

- A signature observed by the INTEGRAL mission in the centre of the Milky Way.
- Believed to result from positron annihilation, but the exact source of positrons remains a mystery.
- Ryan's hypothesis could offer a potential explanation: dark energy or dark matter pockets near the galactic core occasionally interact with visible matter, producing positrons.

Objective:

By cross-referencing time, location, and intensity of these events with the theoretical predictions from the previous steps (simulation and mathematical modelling), researchers can begin to spot statistical or physical patterns. If even weak correlations emerge, it could serve as early supporting evidence that positrons are indeed windows into hidden cosmic forces.

Positrons as a Key to Understanding Dark Matter:

If positrons are indeed linked to dark matter interactions, their elusive nature makes sense. They may only be generated under specific and rare conditions—conditions where dark matter briefly collides with or influences ordinary matter. In this view, positrons are not just random subatomic particles but potential evidence of unseen cosmic forces.

This could redefine how we search for and study dark energy and matter. Instead of only relying on gravitational lensing or large-scale galaxy observations, physicists could also focus on patterns of positron generation.

The Unknown Element:

One crucial point in this theory is that positrons exist only briefly before annihilation. This mirrors how dark matter and dark energy might operate—interacting with our universe in momentary, nearly undetectable ways. The energy burst from positron annihilation could signify these momentary entries and exits of dark phenomena.

The Glimpse Theory raises the possibility that these short-lived particles are the only hints we get of much larger forces.

Implications for Understanding the Universe:

This approach could revolutionize cosmology and quantum physics. By recognizing positrons as potential indicators of dark energy/matter interactions, new tools and experiments could be designed specifically to track and capture these events.

The theory also encourages a broader perspective: that many brief and unexplained cosmic phenomena may be interactions with unknown forces, misunderstood due to our limited detection methods.

A Glimpse into the Hidden Universe:

If positrons serve as momentary windows into dark matter or dark energy, then our entire model of the universe may be incomplete. Observing these flashes gives us a limited but valuable view into what might be a vastly complex and hidden realm of reality. Positrons may hold the key to not only understanding the unseen universe but also developing new technologies and methodologies for exploring it.

References:

University of Rochester. (2018, November 5). In the mystery of positrons, dark matter is a leading suspect. Retrieved April 7, 2025, from https://www.rochester.edu/newscenter/inmystery-of-positrons-dark-matter-is-a-leadingsuspect-281932/

NASA. (2022, August 30). Dark energy, dark matter. https://science.nasa.gov/dark-matter

European Space Agency. (2021, November 25). The invisible universe: Dark matter and dark energy. Retrieved April 7, 2025, from https://www.esa.int/Science_Exploration/Space_Science/Euclid/The_dark_Universe
Perkins, D. H. (2000). Introduction to high energy physics (4th ed.). Cambridge University Press.

Gadgets 360. (2025, March 5). New dark matter hypothesis suggests ionisation clue in Milky Way's core. Retrieved April 7, 2025, from https://www.gadgets360.com/science/news/new-dark-matter-hypothesissuggestsionisation-clue-in-milky-way-s-core-7898186

ESA Science & Technology. (2019, September 1). All-sky map of 511 keV line emission. Retrieved April 7, 2025, from https://sci.esa.int/web/integral/-/41415-all-sky-mapof511kev-line-emission

NASA. (2023). Fermi detects positrons from gamma-ray bursts. NASA Astrophysics Division. Retrieved from https://fermi.gsfc.nasa.gov/

Feimer, W., & Reddy, F. (2023, May 3). Terrestrial Gamma-ray Flashes Create Antimatter. NASA/Goddard Space Flight Center. Retrieved April 7, 2025, from https://svs.gsfc.nasa.gov/1070

Ortega, M. (2017, November 20). Excess positrons could come from dark matter after all. Physics World. Retrieved April 7, 2025, from https://physicsworld.com/a/excesspositronscould-come-from-dark-matter-after-all/