

dark matter pdf

Dark matter is a hypothetical form of matter that is thought to account for approximately 85% of the matter in the universe, and about a quarter of its total energy density. The majority of dark matter is thought to be non-baryonic in nature, possibly being composed of some as-yet undiscovered subatomic particles. Its presence is implied in a variety of astrophysical observations, including ...

Dark matter - Wikipedia

In cosmology and physics, cold dark matter (CDM) is a hypothetical type of dark matter. Observations indicate that approximately 85% of the matter in the universe is dark matter, with only a small fraction being the ordinary baryonic matter that composes stars, planets, and living organisms. Cold refers to the fact that the dark matter moves slowly compared to the speed of light, while dark ...

Cold dark matter - Wikipedia

The diversity of hypothesized dark matter candidates is truly mind-boggling. Serious contenders include particles with radii as large as galaxies, as well as ultra tiny particles with radii one quadrillion (15 zeros) times smaller than the proton.. It doesn't even have to consist of particles at all, dark matter could be small punctures in the fabric of space and time called primordial black ...

What's the (dark) matter? | ScienceNordic

Astronomers have long noticed an invisible elephant in the room – so-called dark matter, which seems heavier than all the visible stars, gas and dust in the cosmos by a ratio of 6-to-1.

A Victory for Dark Matter in a Galaxy Without Any | Quanta

(Phys.org) – A pair of mathematicians – one from Indiana University and the other from Sichuan University in China – have proposed a unified theory of dark matter and dark energy that alters ...

Mathematicians offer unified theory of dark matter, dark

Dark matter is present throughout the universe, forming galaxies and the largest known structures in the cosmos. It makes up around 23 percent of our universe, whereas the particles visible to us ...

New theory on the origin of dark matter - Phys.org

Fornal and Grinstein determined that, in the simplest scenario, the hypothetical dark matter particle's mass must fall between 937.9 and 938.8 mega-electron volts, and that a neutron decaying into such a particle would emit a gamma ray of a specific energy.

Neutron Lifetime Puzzle Deepens, but No Dark Matter Seen

The fields of Dark Matter and Neutrino Physics have experienced a tremendous growth in interest recently and face many theoretical and experimental challenges.

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