

The idea of a universe of corresponding positive and negative energy has been around for a long time. It has entered scientific discussion no later than 1973 with a suggestion by Edward Tryon. Many cosmologists have been fascinated by the idea and some efforts have been made to identify the matching negative energy in the universe. These unsuccessful efforts have included the consideration of negative gravitational potential energy and negative energy in the gravitational field.

My findings have a completely different basis and are the result of a different inquiry. They are based directly on the discovery of an actual dual-energy mechanism that generates corresponding positive-negative energies from zero. It is gravity. My inquiry had been to identify the actual physical energy source for gravity. The stunning further effect of resolving a comprehensive range of problems in cosmology is 'only' the natural consequence from identifying the real answer. The key to this surprisingly unsettled question of energy in gravity is to fully recognize and apply what we really know about the physical behavior of energy: Energy has a mass equivalent that causes gravitational effects. The standard concept of gravitational potential energy does not qualify. No mass-energy equivalent can be associated, no physical location identified. The problem of potential 'mass merger escalation' demonstrates that there is no bottom line from which to quantify an actual value. Gravitational potential energy is not the physical energy source. The gravitational field does not qualify as the energy source either for a straight logical reason: It only emerges and increases after energy is delivered in the birth and growth of massive objects. The ultimate crucial conclusion for the actual energy source in gravity, which I first showed here is this:

In gravity positive energy is generated at the expense of negative energy in space.

Most stunningly, this one conclusion holds the key for the immediate realization of a comprehensive and coherent system of new physics that define a new cosmology: The mechanism directly demonstrates that negative and positive energies evolve dynamically in the universe. It identifies a fundamental mechanism for origin of energy. It demonstrates the reality of negative energy in space that provides the repulsive physical energy needed for a fundamental physical understanding of the expansion of the universe. The mechanism naturally resolves a comprehensive range of fundamental problems in current cosmology from an initial singularity that should never expand to the mystery of dark energy.

The new theory is not an attempt to demonstrate a dual-energy universe, it is the result of finding its dual-energy mechanism.