The Dark Side of the Universe
Pauline Gagnon

in Who Cares about Particle Physics?: Making Sense of the Higgs Boson, the Large Hadron Collider and CERN
Published in print: 2016 Published Online: August 2016
Item type: chapter

The Standard Model works incredibly well but applies to a mere 5% of the content of the Universe; 27% of the Universe is made of a strange type of matter, something absolutely mysterious called dark matter. The remaining 68% of the Universe comes in the form of an enigmatic type of energy called dark energy. Evidence of the existence of dark matter abounds. We detect its presence through its gravitational effects and by means of gravitational lenses. It also plays an essential role in cosmology, acting as a catalyst for the formation of galaxies. Without it, the Universe would not appear as it does today. But dark matter remains elusive. Several experiments are currently in progress deep underground, aboard the International Space Station and at the Large Hadron Collider (LHC) at CERN hoping to catch or produce dark matter particles for the first time.

Conclusion
Yiman Wang

in Remaking Chinese Cinema: Through the Prism of Shanghai, Hong Kong, and Hollywood
Published in print: 2013 Published Online: November 2016
Item type: chapter

This chapter considers the recent and unfolding phenomenon of Hollywood's remaking of East Asian popular genres, including horror, romance, and gangster movies from Japan, South Korea, and Hong Kong. It examines two examples of contemporary Hollywood's absorption of
“Chinese elements” in comparison with the innovative film/stage work by Shi-zheng Chen, a diasporic Chinese media artist. The Hollywood examples are (1) Martin Scorsese’s remaking of Infernal Affairs I (dir. Andrew Lau, Alan Mak, 2002) into The Departed (2006); and (2) DreamWorks' 3D animation Kung Fu Panda 2 (2011). In comparison and contrast with these mainstream big productions, Shi-zheng Chen's films, Dark Matter (2007) and Disney High School Musical: China (2010), and the stage performance Monkey: Journey to the West (launched in 2007) are more marked by the unsettling “spectre of comparison” and a correlated bifocal perspective. Yet all these examples dramatize issues of identity confusion, collision, erasure, and transformation, which allegorically echo the risk of dedifferentiation, deidentification, and the related opportunity of self-repositioning that all emerge from the processes of remaking and appropriation in the global economy. The Departed and Kung Fu Panda 2 foreground provincialization of Hollywood from the peripheral (in this case Chinese) perspective and redefinition of “Chinese cinema” as a cinema with a wide spectrum of fluctuating “Chinese elements.” These developments lead us to ponder the new role of (diasporic) Chinese film-media workers (as exemplified by Shi-zheng Chen) in the arena of global media production and exchange.

Unifying Particle Physics with the Cosmology of the Primordial Universe
José Bernabéu and Adolfo Plasencia

in Is the Universe a Hologram?: Scientists Answer the Most Provocative Questions
Published in print: 2017 Published Online: January 2018
Published Online: January 2018
Publisher: The MIT Press
DOI: 10.7551/mitpress/9780262036016.003.0002
Item type: chapter

The dialogue with physicist José Bernabéu firstly looks into why discovery of the Higgs boson has a spiritual dimension and is a great starting point for new discovery. It then moves on to discuss why CERN, the largest laboratory in the world, is the supreme symbol of an advanced Society and a “civilization catalyst”. American, Asian and European physicists working together as equals in a place that is an essential expression of “understanding”; the noblest and most sublime human expression. An explanation then follows about how observation of incredibly small things using the Large Hadron Collider (LHC) is leading to a new type of physics for explaining unsolved problems, such as the mass of neutrons, matter and dark energy, without losing view of the ‘bigger picture’ in order to widen knowledge of the cosmos. For example with Hubble, where the further away we look, the further back in time we see. Finally,
a recent contribution by Bernabéu is discussed which deals with ‘Time-reversal violation with quantum-entangled B mesons’, a consideration of the behavior of elementary particles, as part of the quest to try and understand the intriguing symmetry between the behavior of matter and antimatter.