Abstract:
Since the time of Newton, the laws of physics have generally been regarded as absolute, universal, eternal and immutable. In the era of modern cosmology, early versions of the big bang theory assumed the laws were magically imprinted on the universe at the moment of its origin. Quantum cosmology, however, requires the laws to transcend the physical universe, while eternal inflation cosmology appeals to immutable meta-laws in a multiverse. Some cosmological theories renounce the notion of fixed laws altogether. Thus the status of the laws remains unclear and offers plenty of scope for misunderstanding and confusion. As a result, most physicists and cosmologists shrug aside the question of the source of the laws as lying outside the scope of science. I shall argue that the nature and origin of physical laws is a proper subject for scientific scrutiny and should not be summarily dismissed.

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Paul Davies is a British-born theoretical physicist, cosmologist, astrobiologist and best-selling author. He is Regents’ Professor and Director of Beyond: Center for Fundamental Concepts in Science, at Arizona State University, where he is also co-Director of the Cosmology Initiative and Principal Investigator of the Center for the Convergence of Physical Science and Cancer Biology. Prior to his move to the USA, he helped create the Australian Centre for Astrobiology in Sydney. Davies has written about 30 books, many for the general public. His most recent is The Eerie Silence: are we alone in the universe? In 1995 he was awarded the Templeton Prize for his work on the deeper meaning of science. He was also awarded the Faraday Prize by The Royal Society, the Kelvin Medal by the UK Institute of Physics, the 2011 Robinson Cosmology Prize, and many book awards, as well as three honorary degrees. Paul Davies is also known worldwide as a television and radio commentator and is the author of hundreds of newspaper and magazine articles.