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The Multiverse—Emerging New View in Fundamental Physics

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The discovery of the accelerating expansion of the universe has led to the dramatic new view that our universe may be one of the many universes in which low energy physical laws take different forms: the multiverse. I explain why/how this view is supported both observationally and theoretically, especially by string theory and eternal inflation. I then describe impacts this new view has on future observations and our fundamental understanding of spacetime and gravity. The topics discussed include an emerging new picture of general relativistic spacetime, especially the crucial role quantum mechanics plays at the largest distance scales, and possible signals of the multiverse in future cosmological observations.