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Development of LIGO: A View From Washington

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LIGO is an audacious project attempting both to confirm the essence of dynamical gravitation, and to harness gravitational waves as a new probe of the cosmos. Achieving its already-demonstrated sensitivity required many technologies to advance many orders of magnitude beyond the state of the art before its initiation. The development of LIGO transformed Gravitational Physics from a small-scale individual-investigator effort into a major new international Big Science collaboration. For three decades, the participant community experienced all the struggle and pain that normally accompanies such a transition. It has been a high-risk, high-reward gamble, always full of high promise that has yet to pay off. This talk will explore the development of LIGO as seen from the perspective of its patron in Washington. Construction of this new facility required a 100-fold expansion of the annual budget for research in this subfield. In the face of this challenge and opportunity, the U.S. Government invested scarce research funds with vision and patience, and managed a very long-term, new, risky, and expensive investment with some wisdom.