High Energy Radiation from Black Holes
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High Energy Radiation from Black Holes

*Gamma Rays, Cosmic Rays, and Neutrinos*

Charles D. Dermer
Govind Menon
To Bea and Priya
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“The black holes of nature are the most perfect macroscopic objects there are in the universe: the only elements in their construction are our concepts of space and time. And since the general theory of relativity provides only a single unique family of solutions for their descriptions, they are the simplest objects as well.”

Subrahmanyan Chandrasekhar, The Mathematical Theory of Black Holes

“Anyone who fights with monsters should take care that he does not in the process become a monster. And if you gaze for long into the abyss, the abyss gazes back into you.”

Friedrich Nietzsche, Aphorism 146, Beyond Good and Evil (tr. M. Faber)

“angelheaded hipsters burning for the ancient heavenly connection to the starry dynamo in the machinery of night,”

Allen Ginsberg, Howl
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