Black Hole Blues And Other Songs From Outer Space

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Black Hole Blues and Other Songs from Outer Space | Janna Levin | Talks at Google Michael Shermer with Dr. Janna Levin — Black Hole Blues (Science Salon # 5) Janna Levin: Black Hole Blues and Other Songs from Outer Space Janna Levin on \"Black Hole Blues and Other Songs from Outer Space\" at the 2016 Miami Book Fair *Black Hole Blues and Other Songs from Outer Spacemp4* Janna Levin Public Lecture: Black Hole Blues and Other Songs from Outer Space **Black Hole Blues - Janna Levin - 5/11/2018** *Listening in on the 'Black Hole Blues,' the soundtrack of the universe Michio Kaku - Gravity Waves \u0026 Black Holes*

Black Hole Blues and Other Songs from Outer Space: Janna Levin Webcast Trailer Janna Levin: Black Hole Blues, How the Universe got its spots \u0026 A Madman Dreams Black Hole Blues and Other Songs from Outer Space BLACK HOLE BLUES AND OTHER SONGS FROM OUTER SPACE Janna Levin describes what a gravitational wave looks like Janna Levin: 2016 National Book Festival Black Hole Blues and Other Songs from Outer Space Janna Levin: Chasing Einstein's Gravitational Waves What is a black hole? Interview with astrophysicist Janna Levin ~~Janna Levin: \"Black Hole Pulsar\"~~ **Does The Universe Just Go On Forever? (Science Salon Moments) Black Hole Blues And Other**

In Black Hole Blues and Other Songs from Outer Space, Janna Levin recounts the fascinating story of the obsessions, the aspirations, and the trials of the scientists who embarked on an arduous, fifty-year endeavor to capture these elusive waves. An experimental ambition that began as an amusing thought experiment, a mad idea, became the object of fixation for the original architects--Rai Weiss, Kip Thorne, and Ron Drever.

Black Hole Blues and Other Songs from Outer Space: Amazon ...

Based on complete access to LIGO (Laser Interferometer Gravitational-Wave Observatory) and the scientists who created it, Black Hole Blues offers a first-hand account of this astonishing achievement: an intimate story of cutting-edge science at its most awe-inspiring and ambitious.

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Black Hole Blues and Other Songs from Outer Space (Audio ...

Black Hole Blues and Other Songs from Outer Space is the latest book by author Janna Levin. It is the epic story of the scientific campaign to record the soundtrack of our universe. Other titles include: How the Universe Got Its Spots, and A Madman Dreams of Turing Machines

Black Hole Blues and Other Songs from Outer Space, a book ...

Black Hole Blues is a captivating study of the process of scientific discovery. -- Brad Davies * Independent * -- Brad Davies * Independent * Levin brilliant captures the immense challenges of today's big science, from the clash of huge egos to the final triumphant proof of a century-old theory -- PD Smith * Guardian *

Black Hole Blues and Other Songs from Outer Space by Janna ...

Black Hole Blues is the amazing tale of the 50 year project to validate Einstein’s 1915 predictions on gravity, and the incredible story of the people and personalities behind the effort. Janna Levin writes with humor, insight, compassion, but with a scientists discerning eye towards se For science nerds who also love a good story, this one's a keeper.

Black Hole Blues and Other Songs from Outer Space by Janna ...

In “Black Hole Blues and Other Songs from Outer Space,” Levin finely chronicles the arduous thus all the more fascinating and rewarding story of the detection of gravitational waves – spatial undulations, as waves in a cosmic sea, the curling and ringing energetic result of the impact of some of the densest astrophysical objects in space.

Janna Levin's "Black Hole Blues and Other Songs from Outer ...

In Black Hole Blues and Other Songs from Outer Space, Janna Levin recounts the fascinating story of the obsessions, the aspirations, and the trials of the scientists who embarked on an arduous, fifty-year endeavor to capture these elusive waves. An experimental ambition that began as an amusing thought experiment, a mad idea, became the object of fixation for the original architects—Rai Weiss, Kip Thorne, and Ron Drever.

?Black Hole Blues and Other Songs from Outer Space en ...

An authoritative account of the headline-making discovery by theoretical astrophysicist and award-winning writer Janna Levin, Black Hole Blues and Other Songs from Outer Space recounts the fascinating story of the obsessions, aspirations, and trials of the scientists who embarked on an arduous fifty-year endeavor to capture these elusive waves

Black Hole Blues and Other Songs from Outer Space: Levin ...

Black Hole Blues and Other Songs from Outer Space, by Janna Levin, Bodley Head, RRP£17.99/Knopf, $26.95, 256 pages Clive Cookson is the FT’s science editor Get alerts on Life & Arts when a new...

‘Black Hole Blues and Other Songs from Outer Space’, by ...

Black Hole Blues and Other Songs from Outer Space Quotes Showing 1-4 of 4. “Somewhere in the universe two black holes collide — as heavy as stars, as

small as cities, literally black (the complete absence of light) holes (empty hollows). Tethered by gravity, in their final seconds together the black holes course through thousands of revolutions about their eventual point of contact, churning up space and time until they crash and merge into one bigger black hole, an event more powerful ...

Black Hole Blues and Other Songs from Outer Space Quotes ...
Black Hole Blues is a great read and uncovers the human side of scientific work wonderfully. The only let down is, for me, that the art of the writing has overwhelmed the beauty of the science. 2 people found this helpful

Amazon.co.uk:Customer reviews: Black Hole Blues and Other ...
in black hole blues and other songs from outer space janna levin recounts the fascinating story of the obsessions the aspirations and the trials of the scientists who embarked on an arduous fifty year

"In 1916, Einstein became the first to predict the existence of gravitational waves: sounds without a material medium generated by the unfathomably energy-producing collision of black holes. Now, Janna Levin, herself an astrophysicist, recounts the story of the search, over the last fifty years, for these elusive waves--a quest that has culminated in the creation of the most expensive project ever funded by the National Science Foundation ($1 billion-plus). She makes clear the how the waves are created in the cosmic collision of black holes, and why the waves can never be detected by telescope. And, most revealingly, she delves into the lives and fates of the four scientists currently engaged in--and obsessed with--discerning this soundtrack of the universe's history. Levin's account of the surprises, disappointments, achievements, and risks of this unfolding story provides us with a uniquely compelling and intimate portrait of the people and processes of modern science"--

The full inside story of the detection of gravitational waves at LIGO, one of the most ambitious feats in scientific history*Selected as a Book of the Year 2016 inthe Sunday Times*'This is empirical poetry. A fascinating tale of human curiosity beautifully told, and with black holes and lasers too' Robin InceIn 1916 Albert Einstein predicted the existence of gravitational waves- miniscule ripples in the very fabric of spacetime generated by unfathomably powerful events. If such vibrations could somehow be recorded, we could observe our universe for the first time through sound- the hissing of the Big Bang, the low tones of merging galaxies, the drumbeat of two black holes collapsing into one... In 2016 a team of hundreds of scientists at work on a billion-dollar experiment made history when they announced the first ever detection of a gravitational wave, confirming Einstein's prediction a century ago. Based on complete access to LIGO (Laser Interferometer Gravitational-Wave Observatory) and the scientists who created it, Black Hole Blues offers a first-hand account of this astonishing achievement- an intimate story of cutting-edge science at its most awe-inspiring and ambitious.

The authoritative story of the headline-making discovery of gravitational waves—by an eminent theoretical astrophysicist and award-winning writer. From the author of How the Universe Got Its Spots and A Madman Dreams of Turing Machines, the epic story of the scientific campaign to record the soundtrack of our universe. Black holes are dark. That is their essence. When black holes collide, they will do so unilluminated. Yet the black hole collision is an event

more powerful than any since the origin of the universe. The profusion of energy will emanate as waves in the shape of spacetime: gravitational waves. No telescope will ever record the event; instead, the only evidence would be the sound of spacetime ringing. In 1916, Einstein predicted the existence of gravitational waves, his top priority after he proposed his theory of curved spacetime. One century later, we are recording the first sounds from space, the soundtrack to accompany astronomy's silent movie. In Black Hole Blues and Other Songs from Outer Space, Janna Levin recounts the fascinating story of the obsessions, the aspirations, and the trials of the scientists who embarked on an arduous, fifty-year endeavor to capture these elusive waves. An experimental ambition that began as an amusing thought experiment, a mad idea, became the object of fixation for the original architects—Rai Weiss, Kip Thorne, and Ron Drever. Striving to make the ambition a reality, the original three gradually accumulated an international team of hundreds. As this book was written, two massive instruments of remarkably delicate sensitivity were brought to advanced capability. As the book draws to a close, five decades after the experimental ambition began, the team races to intercept a wisp of a sound with two colossal machines, hoping to succeed in time for the centenary of Einstein's most radical idea. Janna Levin's absorbing account of the surprises, disappointments, achievements, and risks in this unfolding story offers a portrait of modern science that is unlike anything we've seen before.

Selected as a Book of the Year 2016 in the Sunday Times The full inside story of the detection of gravitational waves at LIGO, one of the most ambitious feats in scientific history. Travel around the world 100 billion times. A strong gravitational wave will briefly change that distance by less than the thickness of a human hair. We have perhaps less than a few tenths of a second to perform this measurement. And we don't know if this infinitesimal event will come next month, next year or perhaps in thirty years. In 1916 Einstein predicted the existence of gravitational waves: miniscule ripples in the very fabric of spacetime generated by unfathomably powerful events. If such vibrations could somehow be recorded, we could observe our universe for the first time through sound: the hissing of the Big Bang, the whale-like tunes of collapsing stars, the low tones of merging galaxies, the drumbeat of two black holes collapsing into one. For decades, astrophysicists have searched for a way of doing so... In 2016 a team of hundreds of scientists at work on a billion-dollar experiment made history when they announced the first ever detection of a gravitational wave, confirming Einstein's prediction. This is their story, and the story of the most sensitive scientific instrument ever made: LIGO. Based on complete access to LIGO and the scientists who created it, Black Hole Blues provides a firsthand account of this astonishing achievement: a compelling, intimate portrait of cutting-edge science at its most awe-inspiring and ambitious.

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What would happen if you fell into a Black Hole? Black holes are found throughout the universe. They can be microscopic. They can be billions of times

larger than our Sun. They are dark on the outside but not on the inside. Anything that enters them can never escape, and yet they contain nothing at all. In Black Hole Survival Guide physicist and novelist Janna Levin takes you on a journey into a black hole, explaining what would happen to you and why. In the process you'll come to see how their mysteries contain answers to some of the most profound questions ever asked about the nature of our universe. 'Astrophysics at its sexiest...hugely enjoyable' Sunday Times

Kurt Gödel’s Incompleteness Theorems sent shivers through Vienna’s intellectual circles and directly challenged Ludwig Wittgenstein’s dominant philosophy. Alan Turing’s mathematical genius helped him break the Nazi Enigma Code during WWII. Though they never met, their lives strangely mirrored one another—both were brilliant, and both met with tragic ends. Here, a mysterious narrator intertwines these parallel lives into a double helix of genius and anguish, wonderfully capturing not only two radiant, fragile minds but also the zeitgeist of the era.

Conventional wisdom says the universe is infinite. But could it be finite, merely giving the illusion of infinity? Modern science is beginning to drag this abstract issue into the realm of the real, the tangible and the observable. HOW THE UNIVERSE GOT ITS SPOTS looks at how science is coming up sharp against the mind-boggling idea that the universe may be finite. Through a decade of observation and thought-experiment, we have started to chart out the universe in which we live, just as we have mapped the oceans and continents of our planet. Through a kind of cosmic archaeology and without leaving Earth, we can look at the pattern of hot spots left over from the big bang and begin to trace the 'shape of space'. Beautifully written in a colloquial style by a world authority, Janna Levin explores our aspirations to observe our universe and contemplate our deep connection with it.

From the acclaimed author of Black Hole Blues and Other Songs from Outer Space--an authoritative and accessible guide to the most alluring and challenging phenomena of contemporary science. "[Levin will] take you on a safe black hole trip, an exciting travel story enjoyed from your chair's event horizon." --Boston Globe Through her writing, astrophysicist Janna Levin has focused on making the science she studies not just comprehensible but also, and perhaps more important, intriguing to the nonscientist. In this book, she helps us to understand and find delight in the black hole--perhaps the most opaque theoretical construct ever imagined by physicists--illustrated with original artwork by American painter and photographer Lia Halloran. Levin takes us on an evocative exploration of black holes, provoking us to imagine the visceral experience of a black hole encounter. She reveals the influence of black holes as they populate the universe, sculpt galaxies, and even infuse the whole expanse of reality that we inhabit. Lively, engaging, and utterly unique, Black Hole Survival Guide is not just informative--it is, as well, a wonderful read from first to last.

Grossly ambitious and rooted in scientific scholarship, The Other Dark Matter shows how human excrement can be a life-saving, money-making resource—if we make better use of it. The average person produces about four hundred pounds of excrement a year. More than seven billion people live on this planet. Holy crap! Because of the diseases it spreads, we have learned to distance ourselves from our waste, but the long line of engineering marvels we’ve created to do so—from Roman sewage systems and medieval latrines to the immense, computerized treatment plants we use today—has also done considerable damage to the earth’s ecology. Now scientists tell us: we’ve been wasting our waste. When recycled correctly, this resource, cheap and widely available, can be converted into a sustainable energy source, act as an organic fertilizer, provide effective medicinal therapy for antibiotic-resistant bacterial infection, and much more. In clear and engaging prose that draws on her extensive research and interviews, Lina Zeldovich documents the massive redistribution of nutrients and sanitation inequities across the globe. She profiles the pioneers of poop upcycling, from startups in African villages to

innovators in American cities that convert sewage into fertilizer, biogas, crude oil, and even life-saving medicine. She breaks taboos surrounding sewage disposal and shows how hygienic waste repurposing can help battle climate change, reduce acid rain, and eliminate toxic algal blooms. Ultimately, she implores us to use our innate organic power for the greater good. Don’t just sit there and let it go to waste.