



Spinning at Infinity

Colliding black holes produce the strongest gravitational waves since the Big Bang, offering a unique way to test the theory of general relativity. Yet until recently no one knew what the waves would look like, because none has ever been detected. Now, a major computational breakthrough has combined non-Euclidean geometry and differential equations to simulate the collisions and reveal the waves' patterns. This merger of mathematics with supercomputers, while not as momentous as that of black holes, will have ripple effects on astrophysics, either confirming general relativity or leading to new theories.



Image courtesy of Chris Henze, NASA.



The *Mathematical Moments* program promotes appreciation and understanding of the role mathematics plays in science, nature, technology, and human culture.