

Black Holes

It is said that fact is sometimes stranger than fiction, and nowhere is this truer than in the case of black holes. Black holes are stranger than anything dreamt up by science fiction writers; however, they are firmly matters of science facts. Black holes are constant sources of fascination to many due to their mysterious nature. A black hole is a region of space-time where the pulling force of gravity is so strong that nothing, not even particles and electromagnetic radiation such as light, can escape from its field. This strong gravitational force arises as a consequence of compression of matter into a tiny little space. This compression may take place at the end of a star's life. A massive star that has burnt up its nuclear fuel, when cools and shrinks below a critical size, it creates a bottomless hole in space-time in such a way that even light can't escape out of it and this makes it invisible to human eyes. A black hole's existence can sometimes be inferred by observing its gravitational interactions with its surroundings. The recent discovery of the gravitational waves provides the first observational evidence for the existence of the stellar-mass black hole binaries. A mesmerising hypothesis about a black hole is that the time travel might be possible through it. In the inner region of a spinning black hole, space and time are intermixed in such a way that the time travel could tantalisingly be close to possible. It would be interesting, in this context, to address a variety of questions, e.g., what a black hole actually is and how many of them are there in the universe? How big are they? If the black holes are "Black", how do scientists know their existence? How are they discovered and characterized? How do they form and grow (is it by stealing material that belongs to other stars)? Could a black hole possibly destroy the earth and will our sun ever turn into a black hole? What would happen if somebody come closer to one of them? Is it possible to fall into a black hole and come out in another universe? It would be fascinating to explore how these giant black hole's power quasars and lie behind other spectacular phenomena in the cosmos.