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EDITORIAL

In at the Birth of Death

From the human perspective, the universe is not a very sudden place. What is going on in the heavens has been going on for a good long time. The sudden events — like the death of a star in an explosion called a supernova — are usually detected well after they begin, and, of course, millions of years after they actually occurred, given the great distances their light has to travel.

Until this year, no astronomer had ever seen a supernova explode. That is because it only begins to emit visible light — the thing astronomers have historically been good at detecting — some time after the explosion has begun. To catch a supernova at the moment of detonation, you have to be looking in exactly the right part of the sky and looking for X-rays, which burst outward and then fade rapidly in the first instants of a supernova's life.

That is exactly what happened in January to Alicia Soderberg, an astronomer at Princeton University. She and a colleague were using a NASA satellite capable of detecting X-ray transmissions to study an already existing supernova in the spiral galaxy called NGC 2770, which lies some 88 million light years from Earth in the faint constellation Lynx. At 9:33 a.m. on Jan. 9, they noticed a vivid X-ray burst in another part of the galaxy — the newborn supernova now called SN2008D. What followed that day is one of the special glories of science. Dr. Soderberg put out the astronomical equivalent of an all-points bulletin, and telescopes everywhere were trained on SN2008D. When the paper describing the results of these observations was published in Nature recently, it had 42 authors, plus Dr. Soderberg, an extraordinary sharing of knowledge.