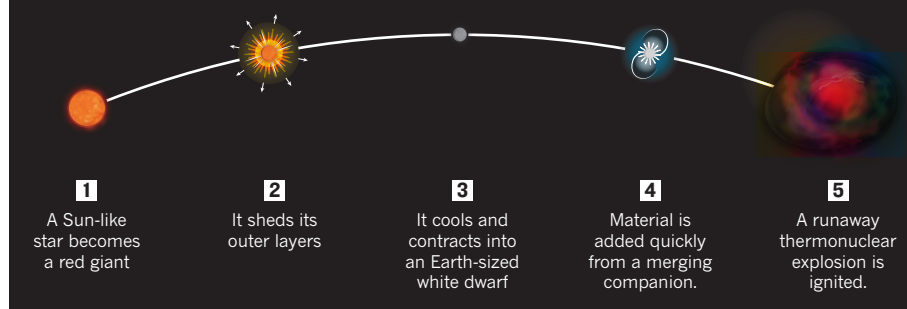


A STAR'S LAST RITES

Light captured from type Ia supernovae supports the idea that merging white dwarfs lead to the explosions.



not found as much radiation from ionized iron atoms as merger simulations predict.

Kepler's exoplanet-hunting days ended in May 2013 after mechanical failures prevented it from pointing precisely enough for that task. But Olling says that the craft could continue to hunt for type Ia supernovae because the bright explosions do not require precise pointing.

It will be crucial to make simultaneous observations from ground-based telescopes, he notes, because Kepler only records brightness and cannot split light into spectra. But to perform such joint observations, Kepler will need to point in the opposite direction; Olling hopes that the Kepler team will agree to this. NASA is expected to announce its plans for the impaired spacecraft this summer. ■

Sun-like companions, says Daniel Kasen, an astronomer at the University of California, Berkeley, and a collaborator on the survey. Not only would these stars cause a much smaller bump, but the bump could be missed completely depending on the observer's viewing angle, he says. If the supernova lay between Kepler and the companion star, for example, the associated bump would probably not be seen.

For years, the idea that type Ia supernovae might arise from merging white dwarfs was discounted because the final stages of the merger were thought to occur slowly, over the course of thousands of years. Such a slow accretion of material would be more likely to

lead to the formation of a neutron star. Then, from around 2010, simulations began to suggest that the mergers could occur in seconds or minutes, allowing for the sudden pressure change that results in an explosion, says Stan Woosley, a theorist at the University of California, Santa Cruz (see 'A star's last rites').

Craig Wheeler, a supernova theorist at the University of Texas at Austin, says that there are still problems with the merger model. For example, he says, simulations of the mergers often produce highly asymmetric explosions, yet observations so far tend to be more spherical. And spectroscopic observations — which split light into its component wavelengths — have

CORRECTION

This News story 'Particle-physics papers set free' (*Nature* **505**, 141; 2014) wrongly stated that CERN has decreed that all articles based on its research must be open access. In fact, it is still reviewing its policy. And in the World View 'Academics should not remain silent on hacking' (*Nature* **504**, 333; 2013), the URL for the non-profit organization recruiting experts should have been opencryptoaudit.org.