

What happens when an explosive is detonated?

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When an explosion goes off, we often think of the damage it does. We seldom think of explosions as constructive, but explosives have always been a critical component of industries such as mining, construction, transportation and even metal bonding.

The mystery of detonation centers on the chemical reactions that take place right after the supersonic shock wave hits the material, a process that lasts only a billionth of a second. To unravel this mystery, scientists at Los Alamos National Laboratory combine computer simulations and innovative experiments that verify what the computers come up with, particularly the simulations of the short-lived chemical bonds formed during detonation.

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