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Gamma-ray bursts spring cosmic surprise

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Gamma-ray bursts, the biggest bangs in the cosmos since the big bang itself, were unexpectedly common in the early universe. This might tell us something crucial about the conditions that trigger these titanic fireballs.

Matthew Kistler of Ohio State University, Columbus, and his team examined 44 long-duration GRBs. The bursts are thought to happen in massive stars, so their frequency should depend on the rate at which those stars form. However, Kistler's team was surprised to find that when the universe was one-fifth of its current size, [GRBs were four times as common as the rate of star formation would suggest](#).

This may be explained if gamma-ray bursts occur when stars in binary systems merge. The greater number of stars forming in the early universe meant more encounters between binaries and interloper stars, which would have boosted merger rates.

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