

36.15. Model: Your personal rocket craft is an inertial frame moving at $0.9c$ relative to stars A and B.

Solve: In your frame, star A is moving away from you and star B is moving toward you. When you are exactly halfway between them, both the stars explode simultaneously. The flashes from the two stars travel toward you with speed c . Because (i) you are at rest in your frame, (ii) the explosions are equally distant, and (iii) the light speed is c , independent of the fact that the stars are moving in your frame, the light will arrive simultaneously.