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Tale of two games: Pyro versus Chop and Save

Messinger and Yarnell recently introduced the Pyro game, a version of Firefighting in which the fire intelligently spreads to one vertex of its choice on each round of play. As usual, the Firefighter can protect one vertex on each round. A basic question when played on an infinite grid is this: Can the Firefighter contain the fire to a finite portion of the grid? Messinger and Yarnell show the answer is yes, and in fact show that the Firefighter can contain the fire to within distance 48 of its starting point. They conjecture that the Firefighter can keep the fire within distance 7 of its starting point. In this talk, I will reduce the Pyro game to a new game dubbed Chop and Save. Tools are developed for this new Chop and Save game, with the hope of using them to resolve the conjecture. This is very much work in progress!