

SYMMETRIC RENDEZVOUS SEARCH

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In the symmetric rendezvous search game played on K_3 (the completely connected graph on 3 vertices) two players are initially placed at two distinct vertices (called locations). At each step a player can either stay where he is or move to a different location. The players wish to minimize the expected number of steps until they meet. Rendezvous search games of this type were first proposed by Steve Alpern in 1976. They are simple to describe, and model circumstances that most of us have met in real life. However, their solution has proved to be notoriously difficult. The symmetric rendezvous search game on K_3 is the first interesting game of this type to have been solved. We discuss its solution, as well as several new tools for addressing such problems. One of these is semidefinite programming (which has been called “linear programming for the 21st century”).