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The Infectious Vaccination Problem, Part 1

We consider a variant of b-FIREFIGHTER called the Infectious Vaccination Problem (INFECTVAX) in which the defence also spreads. An infection breaks out at time-step 0 and during each time-step $t > 0$, the vaccine spreads, new vertices are directly inoculated, and the contagion spreads. Thus, INFECTVAX is a deterministic discrete-time model for the competing spread of a virus and self-disseminating vaccines in a graph. In this preliminary talk, we introduce the model, present some hardness results, and make some observations about subgraphs. This is joint work with J. Enright, M.A. Huggan, E. Hunter-Frankland, and D. Pearson.