The mathematics of nuclear dominance

Soumadeep Ghosh

Kolkata, India

Abstract

In this paper, I describe the mathematics of nuclear dominance.
The paper ends with "The End"

Introduction

As of this writing, there is an extreme probability of global nuclear war. In this global nuclear war, the concept of nuclear dominance is paramount. In this paper, I describe the mathematics of nuclear dominance.

The mathematics of nuclear dominance

Suppose there are N nation-states n_i, $1 \leq i \leq N$ each with a probability of nuclear attack $p(i,j)$ on a nation-state n_j, $1 \leq j \leq N$ and a probability of success of nuclear attack $0 \leq s(i,j) \leq 1$.
Then **nuclear dominance** exists iff there exist a sequence of $1 \leq D < N$ **decisive nation-state(s)** $< \Delta_1, \Delta_2, \ldots, \Delta_D >$ where all $\Delta_d \in \{n_i\}$ such that

$$\sum_{d=1}^{D} \sum_{j=1}^{N} p(\Delta_d, j) s(\Delta_d, j) = \sum_{i=1}^{N} \sum_{j=1}^{N} p(i,j) s(i,j)$$

The End