

EDITOR'S NOTE

The first article in this issue, “THAAD-like High Altitude Theater Missile Defense,” undertakes a detailed analysis of the capabilities of a kinetic kill vehicle of the type planned by the U.S. Theater High Altitude Area Defense (THAAD) against targets of different velocities. The article provides a valuable tutorial on the endgame homing process. And it also shed light on the feasibility of national and theater missile defense. One important finding is that the THAAD system is likely to have a similar capability against strategic targets as against slower theater targets. But, at the same time and for both classes of targets, various countermeasures appear potentially effective against any THAAD-like defense that relied on infrared homing kill vehicles.

The following article, “Early Warning in South Asia,” also provides an excellent tutorial—in this case, how to calculate missile flight times under a variety of conditions and how to assess the capabilities of radar and satellite to detect missile launches. Not surprisingly, the authors find that in the context of South Asia, the warning times that would be available to either India or Pakistan of a ballistic missile attack by the adversary are extremely short—5–13 minutes for depressed trajectories. Such a situation raises grave concerns about the command and control of nuclear forces in a crisis.

The third article, “Research Reactor Vulnerability to Sabotage by Terrorists,” points to the imperative of guarding research reactors against terrorist incursions. While the contained radioactivity in a typical research reactor is far less than in a commercial power reactor, a release of this radioactivity could still have significant consequences. The authors highlight how the regulatory framework in all countries needs to be improved to confront such a threat.

Finally, we include an exchange on the article published in our previous issue on the hazards of pool storage of spent power-reactor fuel in the United States—first a review by the Nuclear Regulatory Commission, and then a response by the authors.