

12TH ICCRTS

“Adapting C2 to the 21st Century”

Title:

C2 and Trust in Cyber-Kinetic Operations

Track 1: C2 Concepts, Theory, and Policy

Track 4: Cognitive and Social Issues

Track 2: Networks and Networking

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ABSTRACT

In the evolving net-centricity of conflict both conventional (kinetic) and information-based arms are employed to achieve national interests. These two seemingly distinct forms of combat occur simultaneously, often affecting similar targets, but in subtly different ways. Kinetic and information forms of conflict are not mutually exclusive. Effects from one promulgate into the other. By instituting the collaboration necessary between kinetic and cyber operations novel solutions to effects-based information environmental objectives can be achieved.

At an even deeper level, understanding this interplay can open up the possibility of distrust, since false information regarding the kinetic battle-space may have entered the cybernetic one. The possibility of strategically placed false information gives commanders even more options in a new, commingled cyber-kinetic operations environment. Exploring the possibilities of command and control in this uniquely 21st century environment is necessary, as there is a knowledge gap of C2 in a truly integrated cyber-kinetic conflict. Additionally, establishing and measuring trust in this environment is an important component of making such C2 innovations effective. In our paper, we will examine a demonstration held in tandem with a cyber-operations exercise which mapped changes in the cyber-environment with a war-game simulating a kinetic environment. We will relay the demonstration setup and underlying technologies, and discuss possible conclusions and future work from the demonstration. We will also describe future work in a Cyber-Kinetic Interface which will allow experimentation in this exciting area of cyber-kinetic operations and future work in trust modeling as it relates to cyber-kinetic operations.