

SBIR 06.2 PHASE I - AWARD DETAILS	
ORGANIZATION	JSSEO
TOPIC NUMBER	A06-147
CONTRACT NUMBER	
YEAR OF AWARD	
AWARD START DATE	
AWARD COMPLETION DATE	
PROPOSAL NUMBER	A062-147-3728
TITLE	Association of Critical, Infrequent Data
PROJECT MANAGER	Oliver E. Drummond (310) 838-5300 drummond@att.net
COMPANY	CyberRnD, Inc. 10705 Cranks Road Culver City CA 90230 Minority Owned: No Veteran Owned: Yes Number of Employees: 5
KEYWORDS	Sensor, Fusion, Tracking, Filtering, Performance, Features, Attributes, CID
ABSTRACT	<p>The objective of this Phase I project is to demonstrate the feasibility for enhancing fusion target tracking with data from multiple, distributed sensors by improving the processing of measurement that will be called special data. Special data is measurement data that is critical (vitaly useful information) but occur infrequently, such as provided by some sensors in air targets. For example, they may include only 1-D or 2-D position information, such as, angle only data or one angle plus range data. If the special data is kinematic information, it might be measurements from an IR sensor (with a large field of regard) that provides infrequent but very accurate angle only position (2-D) data. The time between arrivals of special data from a specific sensor might be fractions of an hour rather than a typical sensor that is fractions of a minute. Thus, traditional processing would lead to misassociations of special data that would substantially degrade performance of fusion tracks, processed features. Even advanced fusion processors that employ current multiple-frame data association methods, such as multiple hypothesis trackers, might be too computation intensive if adjusted to accommodate the interval between the occurrences of the special data.</p>
BENEFITS	<p>This multi-phase project will provide a progression of processing methods to improve fusion processing that will result in improved performance and robustness of sensor fusion of tracks and processed features. Hence, the system is expected to exhibit improved Combat ID, resource management, and battle management. The initial improved processing methods are intended to be compatible with the early version of an air defense system that uses legacy sensors and sensor processors. Subsequent versions of these processing methods will exhibit further improvement in performance by taking advantage of some modification to the local sensor processors. The fusion processing that is</p>

	used in various defense fusion and homeland security systems. Potential commercial applications include biomedical, physical security systems, robotics, and tracking extended objects such as cars, and objects in video images.
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