



SDI Review Form 1.6

Journal Name:	Advances in Research
Manuscript Number:	Ms_AIR_30205
Title of the Manuscript:	Development of Multi-Functional Control Architecture for Multisensor Surveillance Systems
Type of the Article	

General guideline for Peer Review process:

This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty**', provided the manuscript is scientifically robust and technically sound.

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PART 1: Review Comments

	Reviewer's comment	Author's comment <i>(if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)</i>
Compulsory REVISION comments		
Minor REVISION comments	<p>Multisensor approach is often utilized in modern surveillance systems because of its abilities to provide complementary and overlapping coverage on targets. In order to generate target tracks and estimates, the sensor data need to be fused. While a centralized and hierarchical processing approach is theoretically optimal, there are significant advantages in decentralizing the fusion operations over multiple processing nodes. This paper discusses decentralized and heterarchical control architectures, whereby each node processes the data from its own set of sensors and communicates with other nodes to improve on fusions and estimates. A decentralized multisensor data fusion and estimation algorithm with nonlinear information filter were developed for each sensor node for effective information gathering, filtering and estimation along the desired trajectory.</p> <p>The dynamic systems were mathematically modelled and simulated. The simulation results show that the developed architecture satisfies stochastic stability criteria, manifests excellent tracking and filtering properties than the convectional architecture.</p> <p>The paper is well organized and its presentation is basically acceptable. The obtained results are also interesting. The following are some comments that the authors might like to take into account when revising the paper:</p>	



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	<p>The motivation on the study should be further emphasized. In particular, the main advantages of the results in this paper over some existing ones should be clearly demonstrated.</p> <p>* Some more remarks after the development of the main results would be helpful.</p> <p>* How the new algorithm developed in the appear compared with other existing ones?</p>	<p>A distributed and decentralized multisensor data estimation and fusion algorithm with nonlinear information filter was developed and implemented, for fusing the information from these various sensors and embedded in the developed system. This algorithm may be run simultaneously on each node of a multisensor network to give a parallel, highly survivable multi-tracking system. The information that needs to be communicated between nodes is simple and the equations for data fusion are no more complex than for local estimate update. The fully distributed and decentralized nature ensures that it is ideal for implementation on a parallel processing array such as an autonomous intelligent multisensor network. The system could have application in a real time high quality data gathering in navigation system.</p> <p>In fact, the distributed and decentralized data fusion and nonlinear information filters structure tremendously improves the accuracy of the navigation systems. The algorithm produced reliable results even when presented with potentially very noisy data. Finally the control system will continued to function properly even when some of the sensor are isolated from the system when it was running and also shows all the advantages that were predicted.</p> <p>Section 5.2 “Analysis of the Results” compered the conventional centralized system with developed architecture, the</p>
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	*There are some editing and English errors in the paper, and the authors should carefully check and correct them in the revision.	result were show graphical in fig 3 and 4.
<u>Optional/General</u> comments		All the words are now properly edited and carefully check.