

19th International Conference on Information Fusion (FUSION), 5-8 July 2016, Heidelberg, Germany

Pragmatic data fusion uncertainty concerns: Tribute to Dave L. Hall

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Abstract:

Over the course of Dave Hall's career, he highlighted various concerns associated with the implementation of data fusion methods. Many of the issues included the role of uncertainty in data fusion, practical implementation of sensor fusion systems, and incorporating new technology into information fusion designs. These thoughts were communicated through technical books and Handbook collections of articles from authors in the fusion community as comprehensive discussions of data collection and processing to knowledge acquisition and delivery. A summary of the uncertainty issues from Dave Hall, originating with the Joint Directors of the Laboratories (JDL) model, include these attributes across the JDL Levels which are: data (variance), object assessment (covariance), situation (representation), threat (possibility), sensor management (delay), and user (cognition). This paper explores the concepts of uncertainty addressed by Dave Hall from many of his publications that can be used as an anthology of his work.