Multi-Channel Information Fusion in C-OTDR Monitoring Systems: Various Approaches to Classify of Targeted Events

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Abstract : The paper presents new results concerning selection of optimal information fusion formula for ensembles of C-OTDR channels. The goal of information fusion is to create an integral classificator designed for effective classification of seismoacoustic target events. The LPBoost (LP-β and LP-B variants), the Multiple Kernel Learning, and Weighing of Inversely as Lipschitz Constants (WILC) approaches were compared. The WILC is a brand new approach to optimal fusion of Lipschitz Classifiers Ensembles. Results of practical usage are presented.