

Abstract Submitted  
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**Automated High-Speed Video Detection of Small-Scale Explosives Testing** ROBERT FORD, CLINT GUYMON, Safety Management Services, Inc. — Small-scale explosives sensitivity test data is used to evaluate hazards of processing, handling, transportation, and storage of energetic materials. Accurate test data is critical to implementation of engineering and administrative controls for personnel safety and asset protection. Operator mischaracterization of reactions during testing contributes to either excessive or inadequate safety protocols. Use of equipment and associated algorithms to aid the operator in reaction determination can significantly reduce operator error. Safety Management Services, Inc. has developed an algorithm to evaluate high-speed video images of sparks from an ESD (Electrostatic Discharge) machine to automatically determine whether or not a reaction has taken place. The algorithm with the high-speed camera is termed GoDetect (patent pending). An operator assisted version for friction and impact testing has also been developed where software is used to quickly process and store video of sensitivity testing. We have used this method for sensitivity testing with multiple pieces of equipment. We present the fundamentals of GoDetect and compare it to other methods used for reaction detection.

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