

Paper Title (Something about Applying LIME to Bullet Data)

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Background/Literature Review

Problem Statement

Overview of LIME

The Hamby 224 Clone

The Hamby 224 Clone is organized as a test set of a cloned (sub-)set of the Hamby 224 bullets. As with all Hamby sets (Hamby, Brundage, and Thorpe 2009), Hamby set 224, is a collection of 35 bullets, organized as 20 known bullets and 15 questioned bullets. The known bullets are fired in pairs of two through one of ten consecutively manufactures P-85 barrels. Clone set 224 is arranged as a test set of fifteen tests, one for each questioned bullet. Each test set is arranged as a combination of three bullets: two known bullets and a questioned bullet. The test asks for a decision on whether the questioned bullet comes from the same source as the two known bullets or from a different source. This situation is similar to what a Firearms and Toolmarks Examiner might encounter in case work.

Results (using LIME on a TS)

References

Hamby, James E., David J. Brundage, and James W. Thorpe. 2009. "The Identification of Bullets Fired from 10 Consecutively Rifled 9mm Ruger Pistol Barrels: A Research Project Involving 507 Participants from 20 Countries." *AFTE Journal* 41 (2): 99–110.