MATHEMATICAL PRINCIPLES OF MILITARY COMBAT AND COUNTER-INSURGENCY

By

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Abstract

This research involves the use of mathematical techniques to derive theoretical criteria for the outcome of military combat and counter-insurgencies. The mathematical techniques used include Dynamical Systems, Theory of Linearized Stability, and Non-Linear Differential Analysis. Generalized Mathematical models are constructed depicting various scenarios of military combat involving insurgent armies and guerrilla forces. In particular this work is more, realistic and quantitative than previous existing models and analyses. For each of the military models, explicit operational outcomes are calculated and analyzed for exploitable advantages. The research also shows mathematically the validity of some essential principles of combat derived in the past and used at present.