ON AIRBLAST AND AIRSLAP-INDUCED GROUND SHOCK FROM MULTIPLE NUCLEAR EXPLOSIONS

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A barrage attack, if sufficiently controlled in space and time, will enhance weapon effectiveness due to airblast shock-0n-shock interactions and the subsequent ground shock. This paper discusses calculations of multiburst airblast and air-slap-induced vertical ground shock environments from a uniform barrage attack. Data from multiburst high-explosive experiments demonstrate that the theoretical procedure used to combine these effects of multiple explosions is reasonably accurate. Calculations of nuclear explosions over Frenchman Flat of the Nevada Test Site permit comparisons with nuclear test data (from single explosions) further validate the theoretical model. Then, the area exposed to various potentially lethal airblast and ground shock environments is evaluated as a function of weapon yield, burst spacing, timing between burst, and CEP; and the results are compared to the explosions. In particular, it is shown that simultaneity and/or accuracy requirements are stringent if significant multiburst enhancements are to be expected.