THE ROLE OF AEOLIAN FLOWS (EROSION) IN CHEMICAL EXPLOSIVE CRATERING I (ON SURFACE)

A. Lipshtat[1], S. Pistinner[1]

[1]*Dept. of simulations and diagnostics, Nuc. Phys. And Eng. Div. Soreq NRC, Yanvne, 81800, Israel*

ABSTRACT

Large scale chemical explosive charges of the order of kiloton have been used for many years for calibrating seismic monitoring stations, including those of the Comprehensive Nuclear Test Ban Treaty (CTBT) International Monitoring System (IMS).

A byproduct of such an operation is the formation of a large crater. We use the results of the Misers Gold event to study the phenomena of surface dust lofting during the cratering event. The Misers Gold experiment included atmospheric Indium tracers embedded in the ANFO blast generator. Thus, results of this study may also address the process of dust lofting in formation of nuclear fallout. The whole process of Misers Gold blast event are numerically simulated until the time where detonation produces and lofted gas cloud have been stabilized in the atmosphere. The process of dust fallout formation is simulated as well using code analogous to DICE/MAZ and TASS.