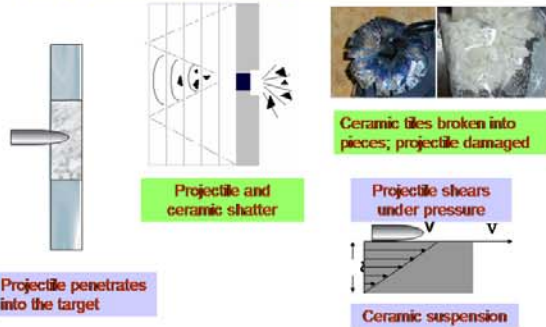


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PROBLEM STATEMENT

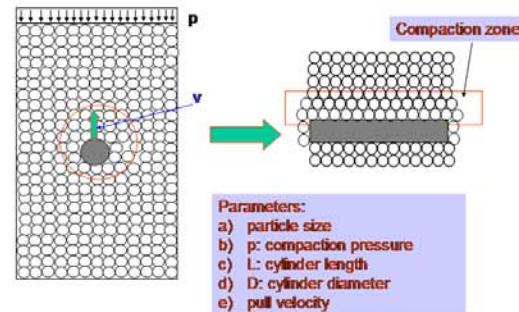
Understand the mechanisms of frictional energy dissipation during the ballistic penetration of granular materials



ACKNOWLEDGEMENTS

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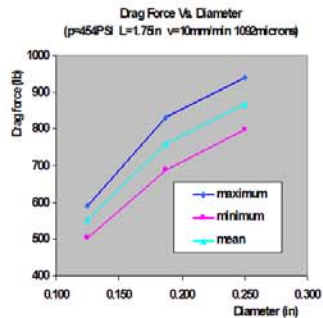
CHARACTERIZATION OF FRICTIONAL COEFFICIENT UNDER PRESSURE



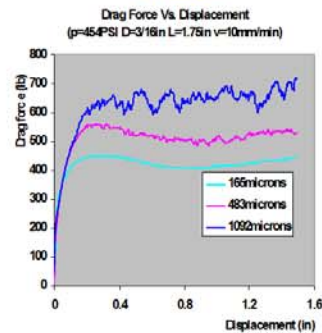
EXPERIMENTAL SET-UP



EFFECT OF PRESSURE

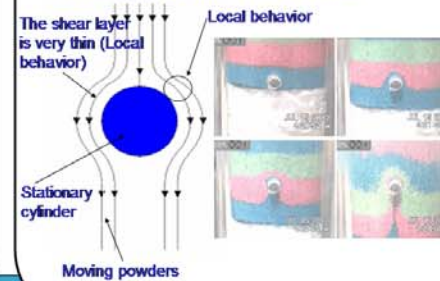


RESULTS FOR DIFFERENT SIZES



FLOW BEHAVIOR OF GRANULES

A constitutive model for granules is needed to characterize their movement



CONCEPTUAL MODEL

