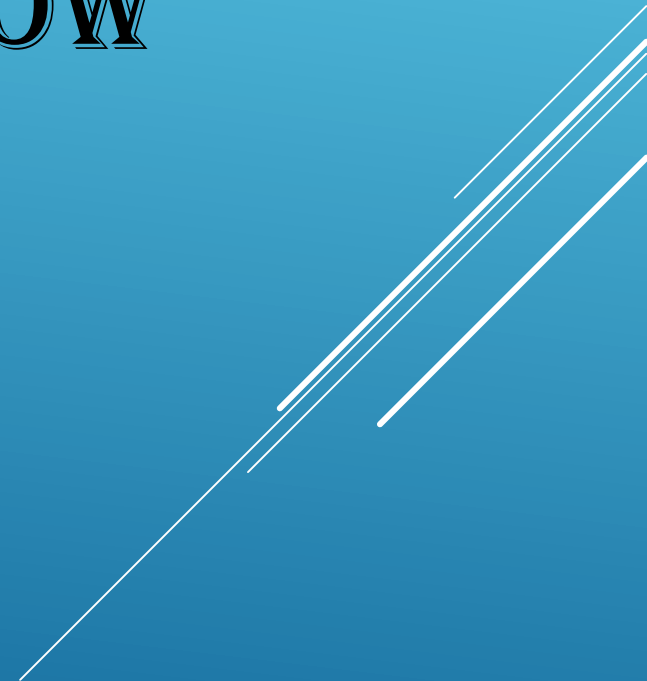


STRAIN GRADIENT CRYSTAL
PLASTICITY EFFECT ON FLOW
LOCALIZATION



SELF INTRODUCTION

I'm Mandeep Singh of mechanical engineering department from Institute of technology Gopeshwar (Uttarakhand).

I got the best opportunity to work on the research project at IIT Hyderabad. I am highly indebted to (Dr Viswanath Chinthapenta) for their guidance and constant supervision as well as for providing necessary information regarding the project & also for their support in completing the project. My thanks and appreciations also go to my colleague in developing the project and people who have willingly helped me out with their abilities.

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STRAIN GRADIENT CRYSTAL PLASTICITY EFFECT ON FLOW LOCALIZATION

- Studied the equation incorporating the plastic behaviour of metals occurring due to crystalline slip.
- Various self & latent hardening relations between resolved shear stress & shear strain in slip system were studied.
- A finite element program ABAQUS was used in deformation & stress analysis.
- Stress, strain and solution dependent state variables was solved incrementally by ABAQUS.
- The kinematics of model, constitutive laws, hardening of rate dependent crystalline materials, incremental formulations were studied.