# A STUDY ON STABILIZATION OF FINGERS IN COUNTER – CURRENT IMBIBITION PHENOMENA FOR A SLIGHTLY CRACKED POROUS MEDIUM

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**Abstract—** In this paper, we developed a mathematical formulation for stabilization of fingers in a specific oil-water displacement process in counter-current imbibition phenomena for a slightly cracked homogenous porous media. Adomian decomposition method has been employed for the analytical solution of the equation of motion to investigate the saturation as well as the recovery rate of this model. A detailed discussion of the saturation as well as recovery rate with dimensionless time is studied graphically with the help of Maple software.

**Keywords—** Cracked Porous Media, Adomian decomposition Method.

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