

## **ON THE FLOW OF A POWER LAW FLUID OVER A FLAT PLATE IN THE PRESENCE OF A PRESSURE GRADIENT**

**B.I. Olajuwon**

*Department of Mathematics, University of Agriculture, Abeokuta, Ogun State, Nigeria.*

*E-mail: olajuwonishola@yahoo.com*

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### **ABSTRACT**

We study the steady pseudoplastic flow of a power law fluid over a flat plate in the presence of a pressure gradient. The pressure gradient increases along the flow direction. We examine for  $(\frac{1}{2})^{-1} \leq \alpha < \infty$ , the flow parallel to the flat plate, the appropriate condition for a similarity solution. The flow has a unique solution when the power law exponent varies between  $\frac{1}{2}$  and 1 and the result showed that the power law exponent has appreciable influence on the flow.

### **Keywords:**

*Fluid dynamics, power law fluid, pressure gradient.*