# ESTABLISHING THE KONOVALOV'S DYNAMIC EQUATION FOR STEADY SPATIALLY VARIED FLOW BY THE PRINCIPLE OF MOMENTUM CONSERVATION

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**Summary**

Spatially varied flow is a specific case of motion for a variable-mass system. In 1937, Konovalov I. M. had established the dynamic equation for steady spatially varied flow. The equation is a combination of velocity pressure head and the ratio of average velocity presure head on channel segment and length of this segment and consider the effect of the lateral flow directions. The equation is widely used and cited in many articles related to spatially varied flow phenomenon. Konovalov's equation had taken by energy conservation principle. This paper presents another way to establish the Konovalov's dynamic equation for steady spatially varied flow by the principle of momentum conservation.

**Keywords:** *Spatially varied flow, momentum, side-channel, konovalov's equation.*