

FLOW RESISTANCE IN OPEN CHANNEL

BIRENDRA KUMAR SINGH

Department of Civil Engineering, Birla Institute of Technology, Mesra, Ranchi, Jharkhand, India

ABSTRACT

Rivers with large-scale roughness have steep slopes and depths of the same order of magnitude as the bed material size. Flow resistance depends on the form drag of the roughness elements and their disposition in the channel. Theoretical processes considerations show resistance to be a function of Reynolds number, Froude number, roughness geometry and channel geometry. These processes are examined using the results of flume experiments based on different roughness beds and a wide range of flows.

Subject Headings: Boulders, Channels, Drag, Flow Resistance, Flumes

KEYWORDS: Friction Factor, Hydraulic Geometry, Roughness