Determination Of The Manning Coefficient "n" For Large Rivers Of Venezuela Using The Flow Velocity Variation Functions

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Abstract. In applying the Manning Equation to estimate the rate of flow, the greatest difficulty lies in the determination of the roughness coefficient n. To select a value of n actually means to estimate the resistance to flow in a given channel, which in turn requires judgement and experience. In this paper an effort has been made to determine the value of n by the analytical procedure based on the theoretical velocity distribution in the channel cross sections and on the data of velocity measurements in big rivers of Venezuela. The results indicate a general relationship between Manning's n and the velocity distribution. The analysis of n in relation to the theoretical channel roughness indicate that the roughness function f(R/k) is constant, so that can be concluded that Manning's n varies with the one-sixth power of the roughness height.