

# Exploring concrete slump model using artificial neural networks

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## Abstract

Fly ash and slag concrete (FSC) is a highly complex material so that modeling its behavior is a difficult task. In this paper, a method of modeling slump of FSC using artificial neural networks is described. The slump is a function of the content of all concrete ingredients, including cement, fly ash, blast furnace slag, water, superplasticizer, coarse aggregate, and fine aggregate. The model built was examined with response trace plots to explore the slump behavior of FSC. This study led to the conclusion that response trace plots can be used to explore the complex nonlinear relationship between concrete components and concrete slump.

Keyword : concrete, models, mixtures, neural networks.