

Concrete Slump Test Data Description

Source

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Data Set Information

High-performance concrete (HPC) is a highly complex material, which makes modeling its behavior a very difficult task. Several studies have independently shown that the slump flow of HPC is not only determined by the water content and maximum size of coarse aggregate, but that is also influenced by the contents of other concrete ingredients. In this paper, the methods for modeling the slump flow of concrete using second-order regression and artificial neural network (ANN) are described. This study led to the following conclusions: (1) The slump flow model based on ANN is much more accurate than that based on regression analysis. (2) It has become convenient and easy to use ANN models for numerical experiments to review the effects of mix proportions on concrete flow properties. (Reference: Yeh, I-Cheng, "Modeling slump flow of concrete using second-order regressions and artificial neural networks," Cement and Concrete Composites, Vol.29, No. 6, 474-480, 2007.).

Attribute Information

Number of Instances: 103

Number of Predictor Attributes: 7

The units of each of the following seven contents of the concrete are in kg per M³ of concrete.

- Cement
- Slag
- Fly-ash
- Water
- SP
- Coarse-Aggregate
- Fine-Aggregate

Number of Response Attributes: 3

- Slump (cm)
- Slump Flow (cm)
- 28-day Compressive Strength (Mpa)