
Study on Numerical Methods to Predict Fresh Concrete Flow

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Predicting fresh concrete flow through reinforced bars is difficult because it is composed of granular material (gravel) and slurry (mortar) and these have an effect on each other. In this study, two numerical methods were examined, which are fluid dynamics with the finite volume method and the granular approach (DEM; Discret Element Method). We evaluated the effect of reinforced bars by DEM and used it in fluid dynamic analysis as an equivalent resistance element. The results of laboratory L-BOX type flow experiments verified the efficacy of our proposed method.