

TWO DIMENSIONAL OF BOUNDARY ELEMENT METHOD TO ANALYZE DISCONTINUITY PLANE ON UNDERGROUND OPENING MODEL

Department of Mining Engineering – ITB
(Contract No. 564.I/K01.8.2/SPK/PP/1999)

Budi Sulistianto, S. Kramadibrata, G.M. Simangunsong, N.P. Widodo

Numerical simulation becomes very popular to analyze geomechanics problems, such as Finite Element Method (FEM), Boundary Element Method (BEM) and distinct element method (DEM). Crouch & Starfield (1983) had developed two-dimensional indirect BEM, which are called Fictitious Stress Method (FSM) and Displacement Discontinuous Method (DDM).

Joint with normal stiffness (K_n) and shear stiffness (K_s) was simulated on rectangular opening model. Combination of FSM and DDM gave a good result in how to predict value of deformation around the opening model. It was found that the deformation getting higher on sidewall and roof, compare with un-jointed model.