

# **Further Development of Sub-block DDA Fracturing Modelling Method for Rock Fracturing Failure Simulation**

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In this paper, the original contact strength-based sub-block DDA fracturing modeling method is revised for a better simulation of rock fracturing failure. In the new method, the fracturing judgment along artificial joints is no longer based on the contact strength between sub-blocks but based on the stress status of the sub-blocks adjacent to the artificial joints, which are used to glue individual sub-blocks to represent continuous medium in the sub-block DDA method for continuum modeling. Simulation examples of rock specimen fracturing failures show that with this newly developed fracturing modeling algorithm, the fracturing simulation results agree well with the corresponding experimental results, and are much less mesh-dependent as compared with that when the original contact strength-based fracturing modeling algorithm is used.

**Keywords:** DDA, Rock fracturing failure