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CRACK LOCAL DIGNITY PRINCIPLE FOR DAMAGED STRUCTURES

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Abstract:

The damage due to a crack in a structure is local as it affects a limited region in its vicinity. This fact is termed as the crack local dignity principle in the presented paper. The boundaries of the affected region have been determined using mathematical logics and numerical studies. It has been shown that the affected region is square in shape whose size is equal to the structure depth parallel to the crack line (surface). Further, the formulation is not limited to damage due to cracks only and is applicable to other damages such as yielding and buckling.

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