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Application of Double Side Approach Method on Super Elliptical Winkler Plate

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Abstract : In this study, the static behavior of super elliptical Winkler plate is analyzed by applying the double side approach method. The lack of information about super elliptical Winkler plates is the motivation of this study and we use the double side approach method to solve this problem because of its superior ability on efficiently treating problems with complex boundary shape. The double side approach method has the advantages of high accuracy, easy calculation procedure and less calculation load required. Most important of all, it can give the error bound of the approximate solution. The numerical results not only show that the double side approach method works well on this problem but also provide us the knowledge of static behavior of super elliptical Winkler plate in practical use.

Keywords : super elliptical winkler plate, double side approach method, error bound, mechanic
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