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DYNAMIC BEHAVIOUR OF SANDWICH CONCRETE CYLINDRICAL SHELLS UNDER FREE VIBRATION

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ABSTRACT: Shell elements are adopted for several structural elements due to their versatile application. In particular cylindrical shell elements are used commonly for many purposes whose predominant stress will be membrane stress. The properties of the concrete cylindrical shell can be improved by introducing a basalt fiber in concrete. This paper concentrates on a parametric study of free vibration analysis of concrete, basalt fiber reinforced concrete and sandwich-type cylindrical shell. The natural frequency creates resonance when it combines with earthquake frequency. The change in base frequency can be achieved by changes in material properties. Modification of properties can reduce the resonance effect. Vibration analysis is carried out to determine the natural frequency of the shell element using finite element software ANSYS workbench'18.

Keywords: *Vibration Analysis, Resonance Effect, Sandwich-Type Cylindrical Shell*

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