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A new higher order theory for analysis of orthotropic cylindrical shell under electromechanical load (Article)

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Abstract

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In this work, the effect of electrical loads on the bending behavior of a simply supported cylindrical shell made of composite and piezoelectric layups have been considered. A new 8 terms higher order shear deformation theory (HSDT8) is proposed and used to analyze the problems. The HSDT8 is the extensional of FSDT by incorporating Murakami zig-zag function and higher order terms in the displacement model. Results are presented for mechanical and electromechanical loading for various layups and validated against available elasticity solutions. HSDT8 proves to be an accurate model for all cases, thin and thick laminate problems. © BEIESP.

SciVal Topic Prominence ⓘ

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