

HLXVIB - A computer code for free vibration analysis of circular helicoidal bars

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Computers and Structures 59 (6), pp. 1095-1105, 1996

Abstract: The development and details of the computer code HLXVIB are presented as a viable means to assess the dynamic structural response of prismatic circular helicoidal bars. To this end, the development of the dynamic transport (transfer) matrix TRLRL is first outlined for a typical helicoidal segment. Then, the implementation of the resulting matrix in the program HLXVIB is discussed to emphasize particular attractive features of the program. Several parametric studies are presented to illustrate the application of the program to studying the vibration characteristics of circular helicoidal bars as one type of the more general class of three-dimensional bars. Copyright © 1996 Elsevier Science Ltd.