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(54) Title: METHOD FOR IDENTIFYING AND AUTOMATIC MONITORING THE VIBRATIONAL MODES OF A CIVIL STRUCTURE AND SYSTEM FOR AUTOMATIC MONITORING THE CIVIL STRUCTURE

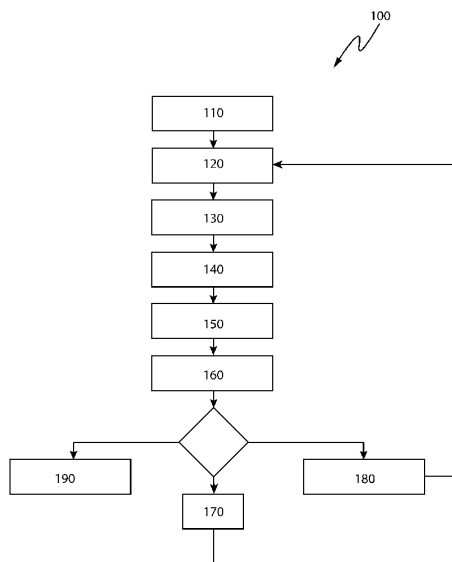


Fig. 1

(57) Abstract: Method for identifying and automatic monitoring (100) the vibrational modes of a civil structure comprising the steps of: receiving (110) a plurality of detecting data from a plurality of acceleration sensors (210) in a number equal to N; - performing at least once a day the steps of: performing a first numerical processing (120) of said detecting data; performing a frequency domain decomposition algorithm (130) on said filtered detecting data obtaining a curve representing the estimated power spectral density of the civil structure; identifying (140) on said curve one or more peaks; associating (150) to each modal frequency a respective modal form; increasing (160) by one the current value of a counter having an initial value equal to zero; if the updated current value is below a predefined upper threshold value, storing (170) in a database the data related to the previously obtained multi-dimensional points; if the updated current value is equal to a predefined upper threshold value, performing a training process (180); if the updated current value is above a predefined upper threshold value, performing a monitoring process (190).

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