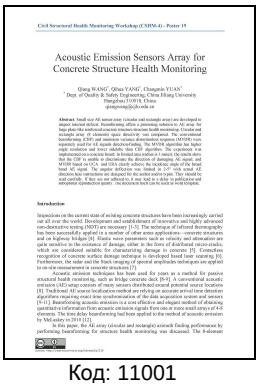
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Acoustic Emission Sensors Array for Concrete Structure Health Monitoring

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Small size AE sensor array (circular and rectangle array) are developed to inspect internal defects. Beamforming offers a promising solution to AE array for large plate-like reinforced concrete structure structure health monitoring. Circular and rectangle array (8 elements) space directivity was compared. The conventional beamforming (CBF) and minimum variance distortionless response (MVDR) were separately used for AE signals direction-finding. The MVDR algorithm has higher angle resolution and lower sidelobe than CBF algorithm. The experiment was implemented on a concrete board. In limited area (radius is 3 meter), the results show that the CBF is unable to discriminate the direction of damaging AE signal, and MVDR based on UCA and URA clearly achieve the incidence angle of the broad band AE signal. The angular deflection was limited in 2-5° with actual AE direction.hese instructions are designed for the author and/or typist. They should be read carefully. If they are not adhered to, it may lead to a delay in publication and suboptimal reproduction quality. The document itself can be used as word template.

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Ключевые слова:

Содержание