

Testing an improved cymbal hydrophone(PDF)

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Title: Testing an improved cymbal hydrophone

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摘要: Cymbal hydrophones have small volume and high sensitivity, but their reception is not stable enough, and their reception is in too narrow a frequency band. In order to overcome these inadequacies, the structure of the cymbal hydrophone was improved. The single ceramic piezoelectric element was replaced with a double one, the radius of the ceramic piezoelectric element was reduced, and a parallel circuit was added. A static analysis of this new structure was developed, and then simulations were made of both the traditional and new hydrophone structure using finite element software. Tests were then conducted in a tank. The results showed that the improved hydrophone has reception in a wider frequency band, reception performance is stable within this frequency band, and sensitivity is still high.

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