# Investigation on the underwater noise from ships in the upper Yangtze River

Zonglin Lei[1], Hongbo DU[1], Yu WAN[1], and Wenjie LI[1]

[1]Chongqing Jiaotong University

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## Abstract

Due to the implementation of many regulation projects in the upper Yangtze River, the vessel transit capacity has been improved visibly. The trend of large-scale ships becomes more obvious, leading to an increase of the traffic flow and underwater noise density in the upper Yangtze River, which has significant influence on the habitat of many aquatic animals, especially for the endemic fish. Thus, it is crucial to accurately assess the ship underwater noise conditions for the ecological protection in the upper Yangtze River. In this study, the underwater noise from different types of ships under the normal operating conditions in the Chaotianmen-Fuling section has been monitored using the underwater noise tracking and monitoring system. The results indicate that the frequency of underwater radiation noise from ships is concentrated in the range of 200Hz˜1300Hz, and the sound pressure level is distributed in the range of 148.50dB˜172.86dB, and the underwater radiation noise energy is concentrated in the low frequency part. The sound pressure level of underwater radiation noise from ships is proportional to the ship speed and ship tonnage. The research results can provide theoretical support for the subsequent research on the underwater noise distribution in such waterways as well as the ecological route selection.

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