

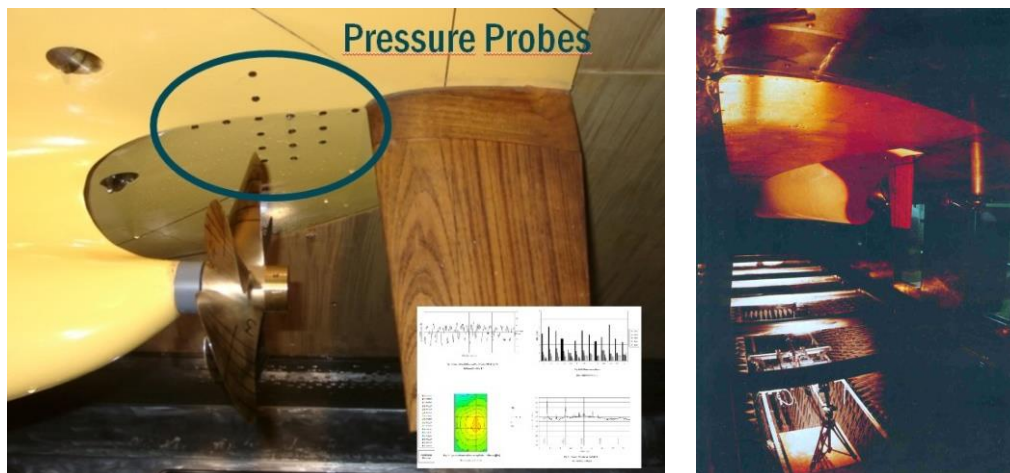
# Correlation between pressure pulse and hydro-acoustic measurements in HSVA's Ice HYKAT

## Introduction

In the large Hydrodynamic and Cavitation Tunnel of HSVA (HYKAT, Figure 1) model propellers installed behind a ship model are analyzed. Additionally to the cavitation observations pressure pulse measurements above the propeller (Figure 2, left) are performed. Another special feature of the tunnel is its room-sized anechoic chamber underneath the test section (Figure 2, right). Here sensitive hydrophones are located to record model propeller noise. In the present work a correlation between the pressure pulse (vibrations) and hydro-acoustic (underwater noise) results shall be elaborated. If possible a transfer function shall be determined taking into account the different frequency ranges.



**Figure 1: HSVA's HYKAT**



**Figure 2: Pressure pulse measurements (left), hydro-acoustics chamber (right)**

## Objective:

The main objective is to develop a correlation between the pressure pulse and hydro-acoustic results by

- analysing and evaluating existing test results
- considering frequency ranges
- creating transfer function

## Task assignment:

- Familiarizing with HYKAT's pressure pulse and hydro-acoustic measurements
- Identify relevant correlation between both results
- Developing transfer function
- Verification of transfer function
- Documentation of development and results in a written report

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