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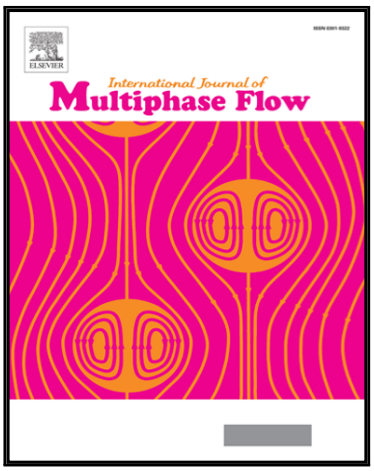

Rotating air-water ring in the vaneless gap of a pump-turbine operating in condenser mode

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Highlights

- Evidence of the air-water ring in the vaneless gap of a pump-turbine is experimentally proved.
- Image processing is applied for bubbles recognition and tracking in the air-water ring.
- The bubbles size and velocity profiles are assessed as a function of the gauge pressure.
- Pressure fluctuations measurements show an oscillation at 0.7 $\times$ the blade passing frequency.
- Rotor-stator interactions are analytically identified as the cause of the pressure fluctuations.

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