

THE PROBLEM

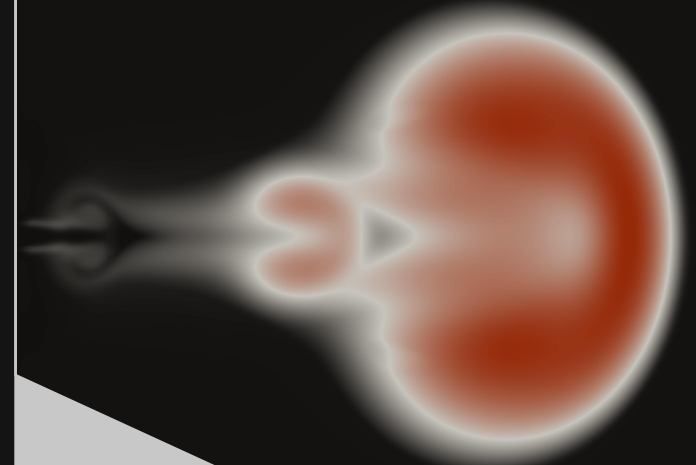
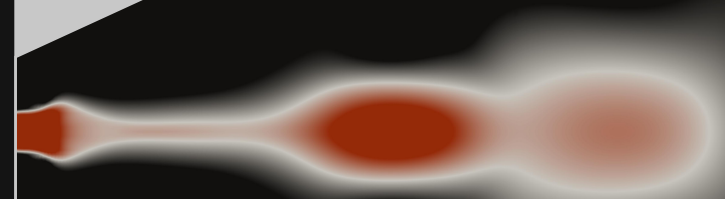
- A piping component was suffering wear and erosion.
- The consequence appeared to be the impingement of fluid jets.
- The jets were pulsating and the wave parameters were not identified.

OUR SOLUTION

- Measure wave parameters using a hybrid experimental-analytical approach.
- Compute the impingement fluid dynamics.
- Compute the dispersant velocity.
- Predict the erosion rate.
- Extrapolate back to estimate leak lifespan.

OUR METHODS

- CFD approach based on the Finite Volume Method using OpenFOAM.
- k-omega turbulence model.
- Pressure Implicit solver.
- Lagrangian particle model for the discrete phase.
- Okas model for erosion rate prediction.



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