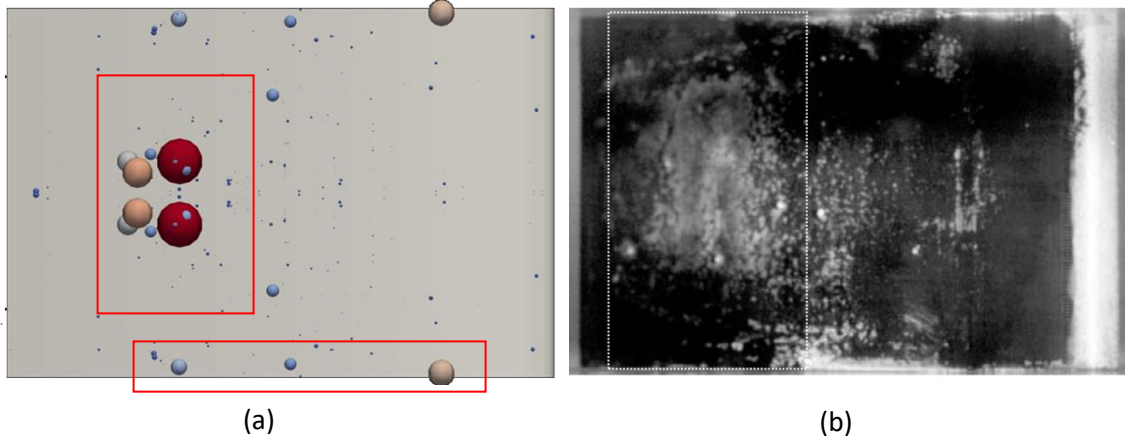


Summary of the deliverable D3.5: Energy Cascade

provided by ESR 9, Mr Mohammad Hossein Arabnejad, under the guidance of Prof. Rickard E. Bensow, Chalmers University of Technology, August 2017



a) The location of collapse points and their emitted acoustic energy, b) experimental erosion pattern obtained by the soft paint

In this deliverable, a numerical erosion indicator, based on the philosophy of the EroCav handbook, is presented for assessment of risk of erosive cavitation, useable in an incompressible simulation model. This numerical method tracks each collapsing macro cavity and save its kinematic features up to the final collapse stages that can be resolved on the computational grid. These kinematic features are then used to estimate the erosiveness based on an energy balance between the energy of collapsing cavities and erosion damage. The proposed numerical method is applied for the cavitating flow over a 3D NACA0015 foil. Erosive collapse events are identified and their locations are compared with experimental erosion pattern obtained by soft paint test.