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Sommario/riassunto	Cavitation refers to the formation of vapor cavities in a liquid when the local pressure becomes lower than the saturation pressure. In many hydraulic applications, cavitation is considered as a non-desirable phenomenon, as far as it may cause performance degradation, vibration problems, enhance broad-band noise-emission, and eventually trigger erosion. In this Special Issue, recent findings about cavitation instabilities are reported. More precisely, the dynamics of cavitation sheets are explored at very low Reynolds numbers in laminar flows, and in microscale applications. Both experimental and numerical approach are used. For the latter, original methods are assessed, such as smooth particles hydrodynamics or detached eddy simulations coupled to a compressible approach.