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From 18/09/2017 till 26/09/2017 I was visiting Institut Universitaire des Systemes Thermiques Industriels (IUSTI) UMR CNRS N° 7343 at the Aix-Marseille University in Marseille, France. Under the supervision of Directeur de Recherche at CNRS Fabrice Onofri, I improved my knowledge and skills in the experimental work concerning microdroplet trapping and optical characterisation inside acoustic trap.

During my stay, firstly we discussed methods currently used to measure surface tension using acoustic levitation, exchanged recent results and identified unique aspects of our research. Further part of my stay was devoted to the work with experimental setup and optical devices. An overview picture of the experimental setup is shown in Fig. 2(a). During the training I learned how to adjust the illumination light sources, maintain detectors and CCD cameras and how to use the rainbow angle diffractometry for sizing evaporating droplet. I was also acquainted with sample preparation and operation of the acoustic trap. Additionally, we installed and launched a high-speed camera in order to investigate mechanical resonances of evaporating droplets. Subsequently, I performed preliminary research and recorded numerous experimental results that will be subject of the further post-processing and analysis. Picture of the example droplet levitating inside electrodynamic trap is shown in Fig. 2(b). Additionally, Fig. 2(c) presents microscopic image of the toroidal aggregate built of nanosilica nanospheres being a result of the evaporation of a droplet of colloidal suspension under certain conditions.



Fig. 1. The Old Port of Marseille (French: Vieux-Port).

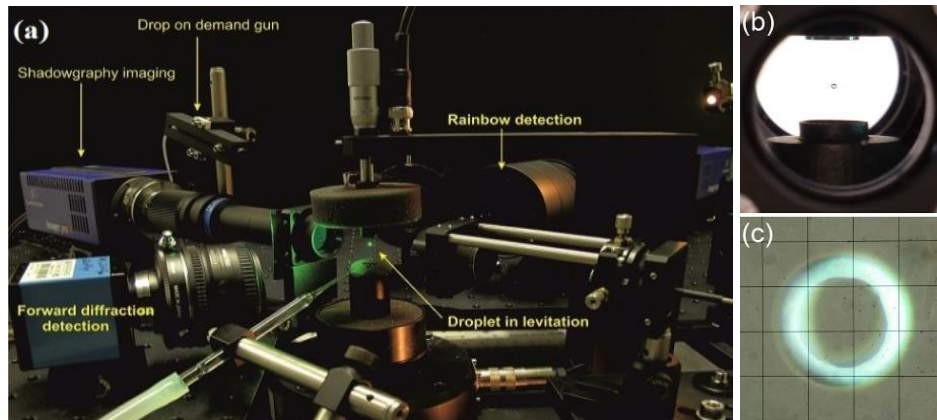


Fig. 2. (a) Overview of the experimental setup, (b) Droplet levitating inside acoustic trap, (c) Microscopic image of toroidal aggregate built of nanosilica spheres as a result of evaporation of a droplet of colloidal suspension.

Beside that my stay in Marseille was a chance to gain knowledge and practical skills, it was also a great opportunity for deepening cooperation between the Group of Optical Characterization of Micro and Nanobjects from the Institute of Physics Polish Academy of Sciences and the research group of professor Fabrice Onofri. We exchanged information about the present and planned research activities and started developing ideas for a common project in the framework of Horizon 2020 program.