Status of the Pellet Target developments in ITEP

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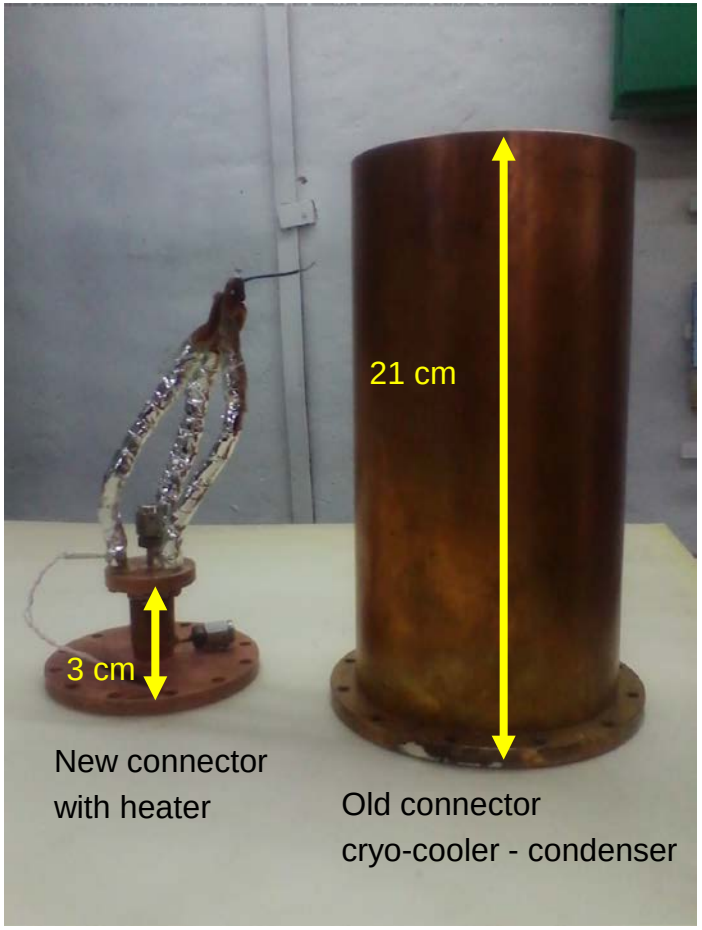
Development of the target prototype

Decision about minimization of the upper part of the cryostat and optimization it for the cryo-cooler geometry

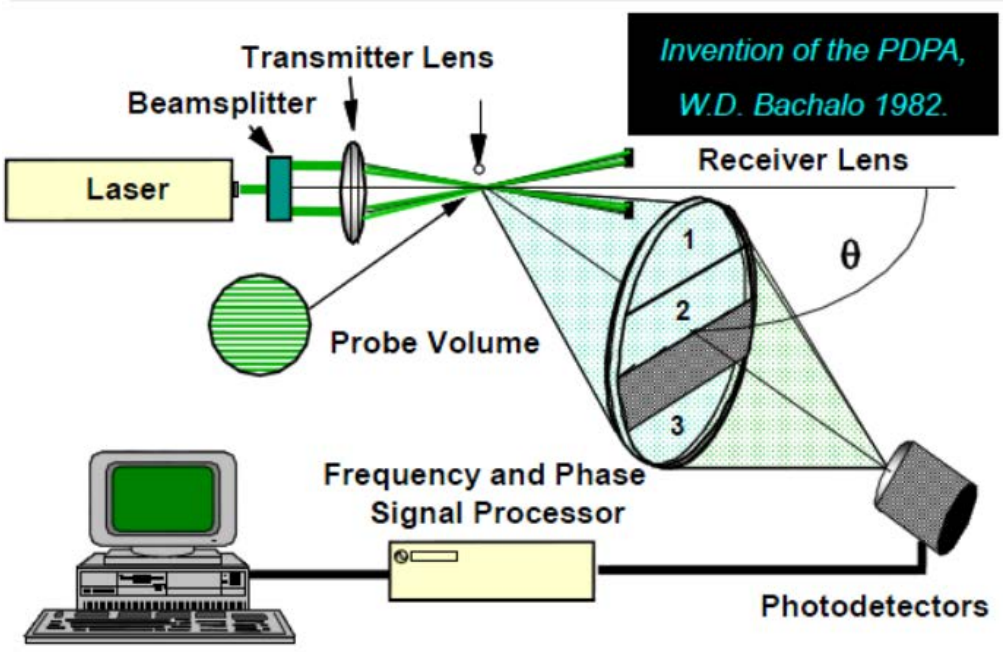


Comparison low temperature tests for two geometries show improvement of the temperature from 20 K to 12.8 K at control point near the condenser

Development of the target prototype

Assembling with the new geometry and mounting of the gas lines inside the cryostat are going on ….

Phase Doppler Interferometer



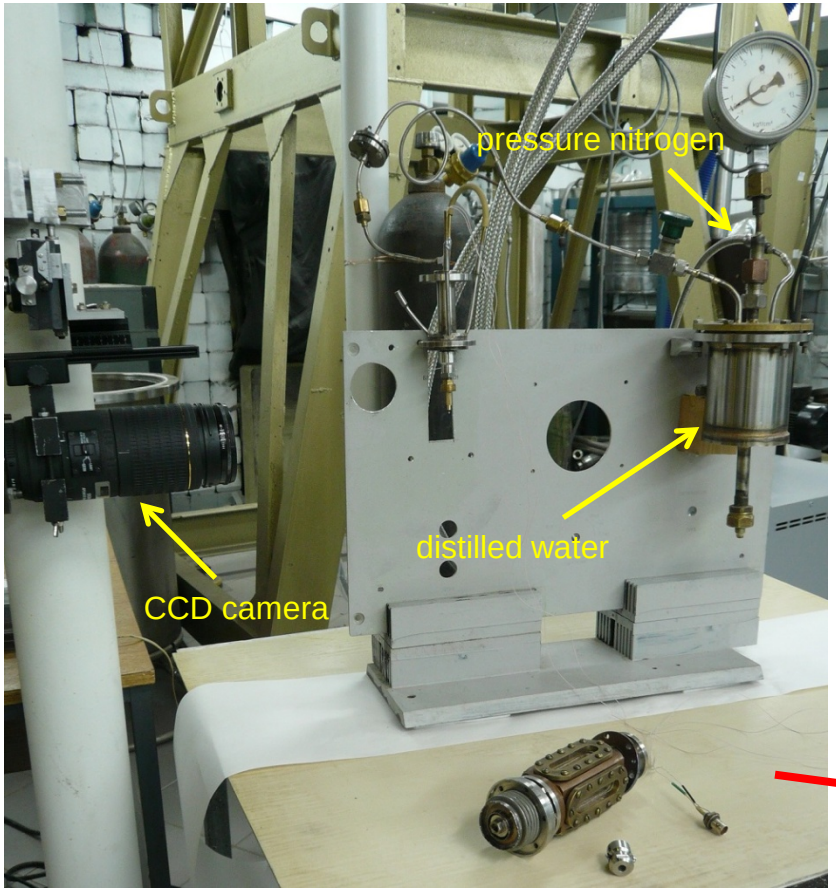
Goals: measurement of size and velocity of droplets/pellets

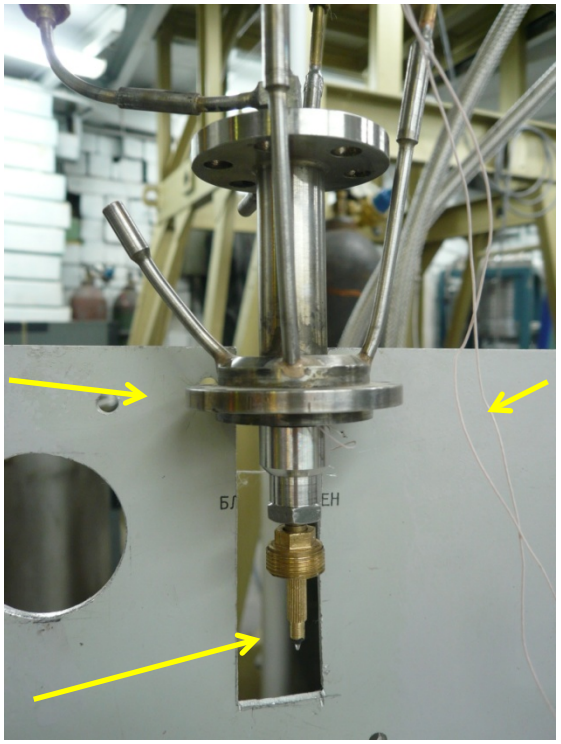
1 PhD student P.Balanutsa

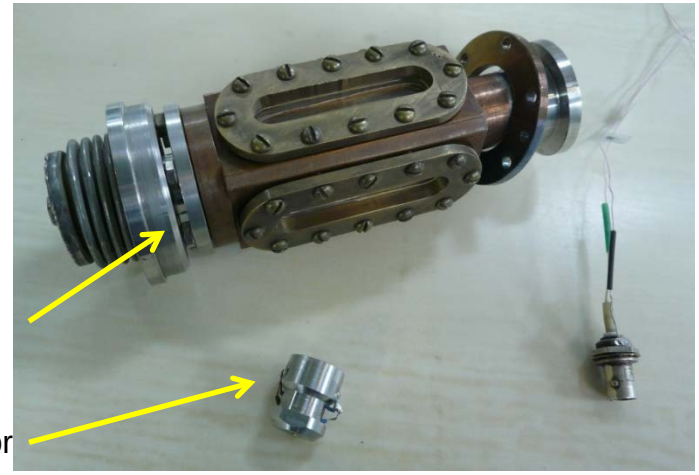
Cooperation with National Research Nuclear University MEPhI (Moscow Engineering Physics Institute)

Tests with water, preparation for Doppler method

Test station - preliminary version



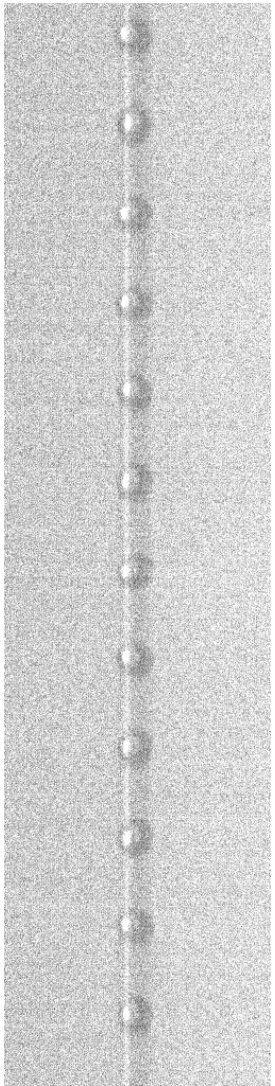




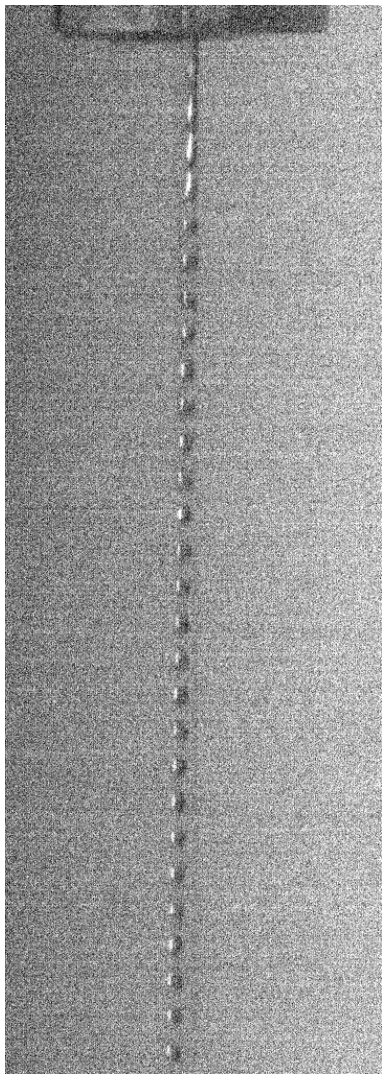
Tests with water, preparation for Doppler method

First step - observation of the water mono-disperse droplets – test of the piezo generator
Start from the big nozzles with subsequent decreasing of the diameter

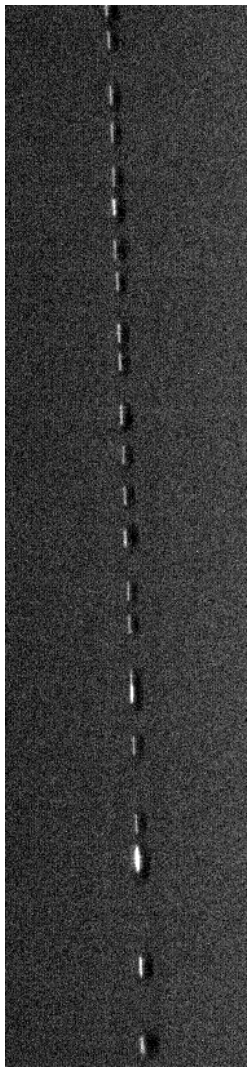
~ 140 µm nozzle



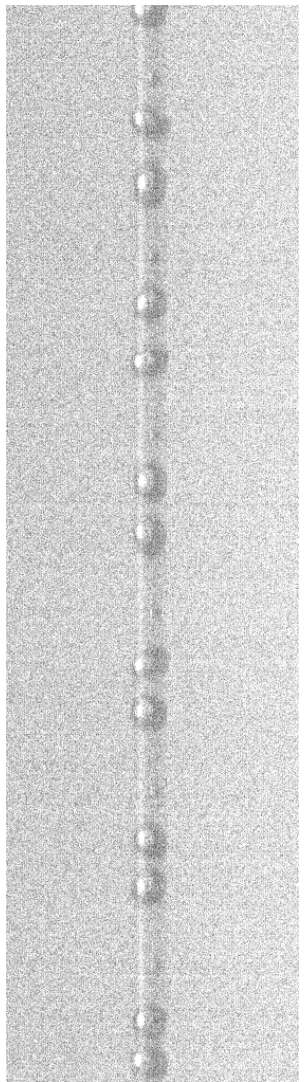
~ 60 µm nozzle

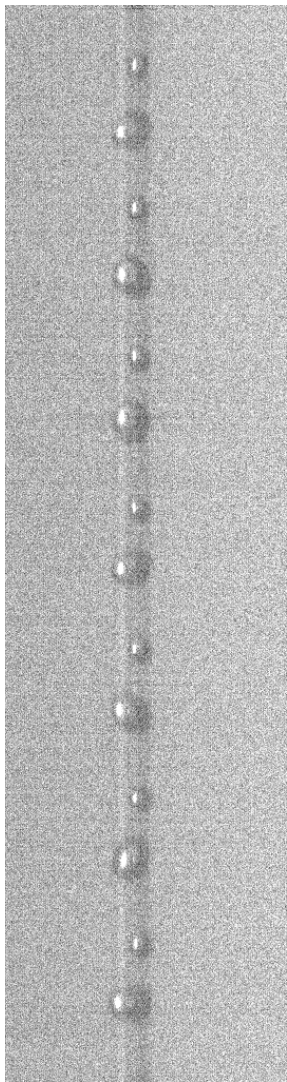


~40 µm nozzle, no piezo



~ 140 µm nozzle,
example of regimes





Transfer of the first target prototype from FZJ to ITEP

1) Disassembling and packing of the first prototype of the target in FZJ — done
2) Preparation of the place in ITEP for the target from FZJ — done
3) Packing documents for the cargo — done
4) Negotiations with the transport company and Russian custom — in progress
5) Document preparations in FZJ — in progress
6) Document preparations in ITEP — in progress