

# Tests for the ZP based focusing devices

A. De Francesco, A. Laloni, M. Longo, C. Petrillo, F. Sacchetti

CNR IOM, c/o ILL Grenoble

Univeristà di Perugia

Preliminary test experiment to study several ZPs 5 mm diameter and 400 nm resolution.

The tests have been performed at ILL using the monochromatic beam of the IN3 beam line using a wavelength of 4.5 Å.

The focal length is 4.5 m at this wavelength.

A Gd coated honeycomb collimator 2 m long was employed after the ZPs position. A 5 mm diameter hole on a Gd plate with adjustable position was used to support the ZPs.

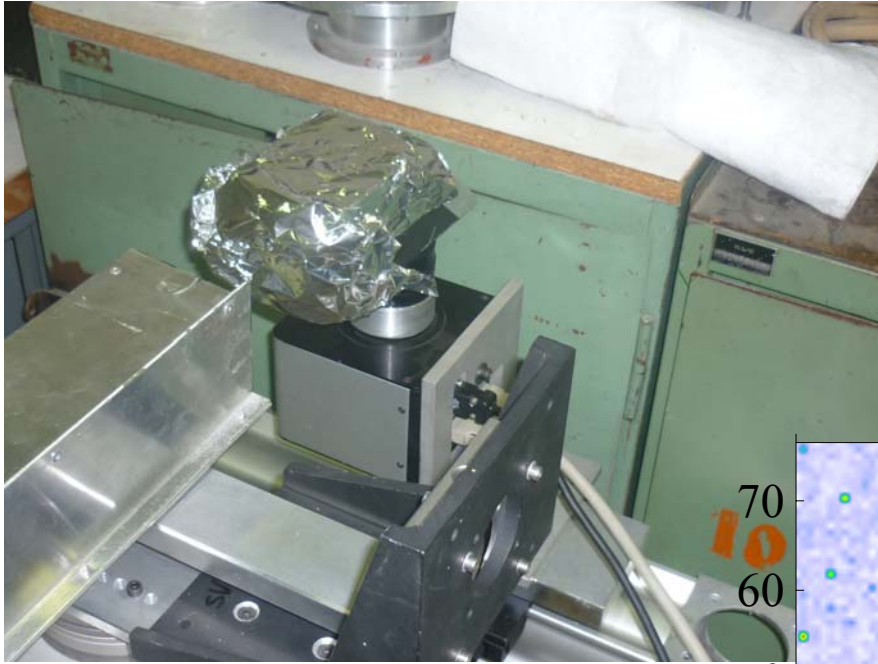
Several beam sizes have been used in this first set of experiments.

The aim is to understand in more detail the possibility of producing a clean and small beam.

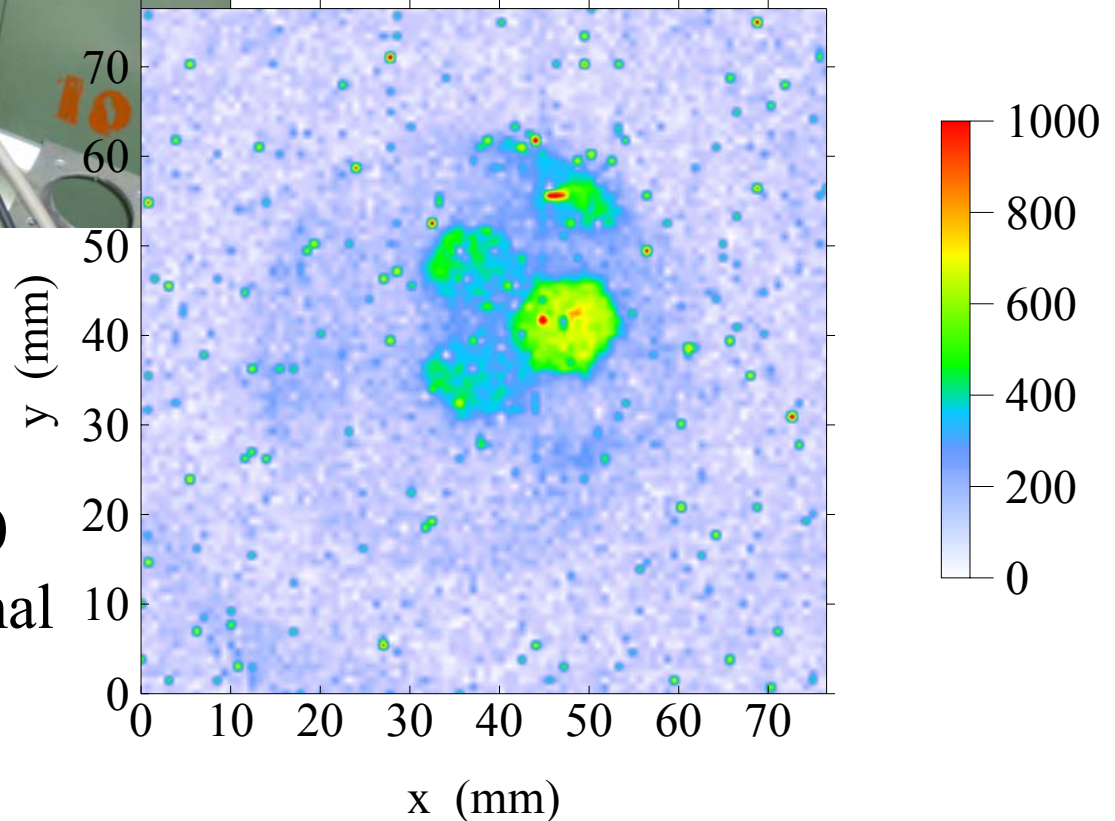
The experimental configuration was limited by the size of the experimental area of IN3 which allows for a maximum distance of 4.5 m, too small for a complete test.



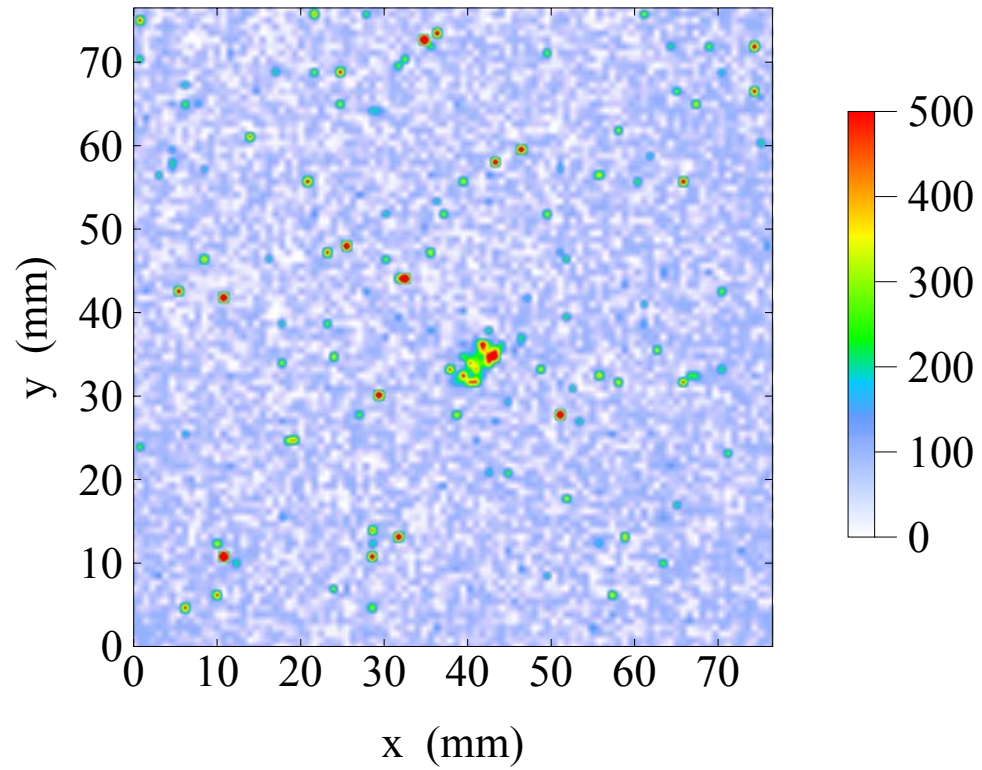
Honeycomb collimator, support and alignment system



CCD camera at the end of the collimator. The noise of this device is fairly high because it is designed for high intensity.



Beam produced by a 10x10 mm<sup>2</sup> window before the final alignement



Stack of two ZPs at the collimator entrance

# Stack of three ZPs at the entrance of the collimator

