

INGOT WFS for LGS: on-going feasibility study

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Summary

As LGSs come from an excited cigar-shaped region in the sodium layer, they do not behave as point-like sources, therefore a new class of WFSs has been proposed to account for such elongation: the Ingot WFSs, the LGS-counterparts of a pyramid WFS. As they appear to be very promising, their implementation in the framework of MAORY is being considered. In the talk, we aim to present the current plan for Ingot performance simulations, which require a different approach with respect to Shack-Hartmann WFS or Pyramid WFS simulations. This happens because the Ingot WFS key component, which allows to discriminate the first derivative of the incoming wavefronts, lays in an inclined focal plane and its geometry is differently projected into the directions of different pupil sub-apertures. Finally, we want to present a plan for Ingot WFS prototyping activities in the laboratory at INAF-Padova, with the goal to preliminarily investigate the concept feasibility and practical implications.

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