



CPV

ENEA - Italian National Agency for New Technologies, Energy and Sustainable Economic Development.

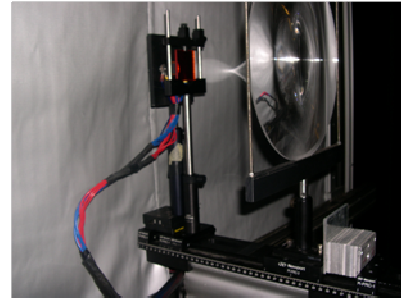
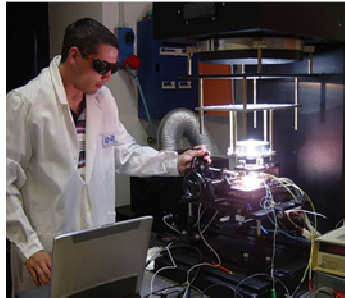
Indoor PV-C Solar cells and lens characterization

Location of the infrastructure : Portici, Naples- Italy <http://www.ene1.portici.enea.it/>

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Objectives : Characterization of PV-C solar cells and PV-C optical systems

Main features :



Thermal controlled, flash time adjustable solar simulator for concentrating PV-C cells patented by Enea

- irradiance adjustable between 10 W/cm² and 25 W/cm²; on an area 1.6 x 1.6 and 1.1 x 1.1 cm²; light source non-stability < 6%; uniformity on the target plane >70% ; control of the measuring time (2s-∞) and of the flash time; device under test temperature control (15-80°C)

Thermal controlled, flash time solar simulator for concentrating PV-C cells

- irradiance adjustable between 3 and 25 W/cm²; on an area variable from 2 x 2 cm² up to 1x1 cm² in dependence of the concentration level, flash time ~10 ms, device under test temperature control (15°C-80°C)

Qyield for single junction/double junction/ (range 300-1150nm) and double/triple junction (range 250-1800nm)

Optical bench for lens performance:

- Optical bench for PV_C lens and SOE efficiency measurements and evaluation of dependence of optical efficiency in dependence of the direct light incidence angle.

Limitations or constraints : The access will be allowed with technical and scientific assistance from Enea.

Typical services or results : I-V characterization of single and multi junction solar cell under different working temperature (15-80°C). Evaluation of thermal coefficient . Indoor Optical performance analysis of prismatic- fresnels and hybride prismatic-fresnel lens

Examples of research projects : The facility was used on many national and FP EU funded research projects including FP7 project Apollon