Climatic Chambers for ageing tests

The ageing laboratory is equipped with four environmental rooms able to perform on PV modules accelerated ageing tests by the simulation of following atmospheric agents:

- 1 Uva, Uvb, rain and thermal chamber to reproduce the separate or combined action of rain, temperature and ultraviolet radiation. Ultraviolet radiation is very damaging for all polymeric optical systems (lens) used in CPV modules, and polymeric components and protective coatings of flat PV modules.

- 2 Humidity freeze climate chambers : they reproduce very low temperatures (down to -40 °C), very high temperatures (+90 °C), and different humidity conditions (+10% to +90 %). It is possible to program humidity and temperature cycles for modules and small samples The chambers are able to perform different ageing tests as freeze humidity test, dump heat test according to CEI EN 61215 , CEI EN 61646 and IEC 62108 standards.

- 1 Salty fog room: it produces a corrosive atmosphere containing sodium chloride and is used to measure resistance to corrosion of all the photovoltaic modules' metal parts.

By means of this kind of tests, it is possible to detect potential changes in electrical parameters and performance of PV samples.