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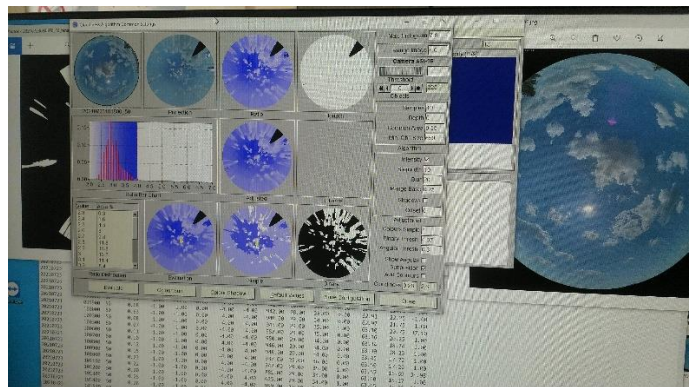
Team: SOLAR ENERGY RESEARCH GROUP (<http://solar.physics.uvt.ro/>)

Theme: INCREASING THE ACCURACY IN PV POWER FORECASTING

Research objective: (1) Development of new procedures for image processing aiming to accurately forecast of the relative position of the Sun and clouds; (2) Enhancement of existing procedures for solar resources forecasts, as a prerequisite for accurate PV power forecasting.

Requirements: BsC, MsC in physics, informatics or automation. Good knowledge in computational physics, numerical analysis. Basic knowledge in using MathCAD or R (or other mathematical tools).

Highlights: The PhD student will have the opportunity to work directly with ASI-16, one of the top instruments in sky imaging at the moment.



Background: The main challenge for the power grid operators is to instantaneously synchronize the electricity production with the demand. The grid equilibrium is constantly changing with the fluctuation of the demand, but it becomes furthermore threatened by the increasing penetration of the renewable energy sources, whose inherent variability may induce significant energy fluctuation into the grid. Nowadays, the smart-grid concept is present more and more in the electricity grid management. Energy saving and grid safety (by maintaining the grid equilibrium) represent the main purposes of this concept. Forecasting of the grid load and the output power of solar plants are important tasks to provide intelligence to the grid. Accurate forecasts will enable the computers to take control actions to balance the electricity grid.