1. Abstract
2. Introduction
   1. Very short-time power prediction for PV plant (overview of methods)
      1. Satellite-based imagery
      2. Ground Sky imagery
      3. Several irradiance sensors in ground
   2. Image acquisition setup(fisheye HDR), sensors setup and measurements
   3. Cloud segmentation, cloud tracking, power prediction adaptation
   4. Using sky imagery for irradiance estimation (and hopefully prediction)
   5. Irradiance components and relations
   6. Accuracy measures
   7. Challenges
      1. Cloud height unknown (solvable using special sensors)
3. Related work
   1. T. Schmidt work on irradiance estimation
4. Irradiance estimation from sky image
   1. Camera calibration (adjusting) based on sun-positions
   2. Clear-sky model
      1. Comparison of McClear model vs ineichen vs our measurements
      2. clear-sky DNI is a good approximation for actual DNI. Showing some clear or cloudy days to prove this point.
      3. Projection of plant into the sky and estimating shade ratio
   3. Deriving diffuse irradiance from available sensors and clear-sky model
      1. Using clear\_sun\_flag and clear-sky DNI for calculating diffuse from tilted plate
      2. Comparing tilted diffuse with diffuse from the main irradiance plate, then correcting tilted diffuse. Showing its robustness.
      3. Investigate different parameters which affect diffuse
         1. Discuss cloud coverage geometrical polar feature around sun and also the whole image.
         2. Discuss saturation detection algorithm and its results
      4. Show their correlation to diffuse, discuss cases based on images and corresponding irradiance components
      5. Regression, or svorim method for estimation
      6. Other method to regress, or penalty
5. Result
6. Discussion and future work
7. Conclusion
8. References