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ALL-SKY IMAGING: A WAY TO INCREASE SOLAR IRRADIANCE FORECASTING RESOLUTION AND ACCURACY

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Czech Technical University in Prague

30 April 2019



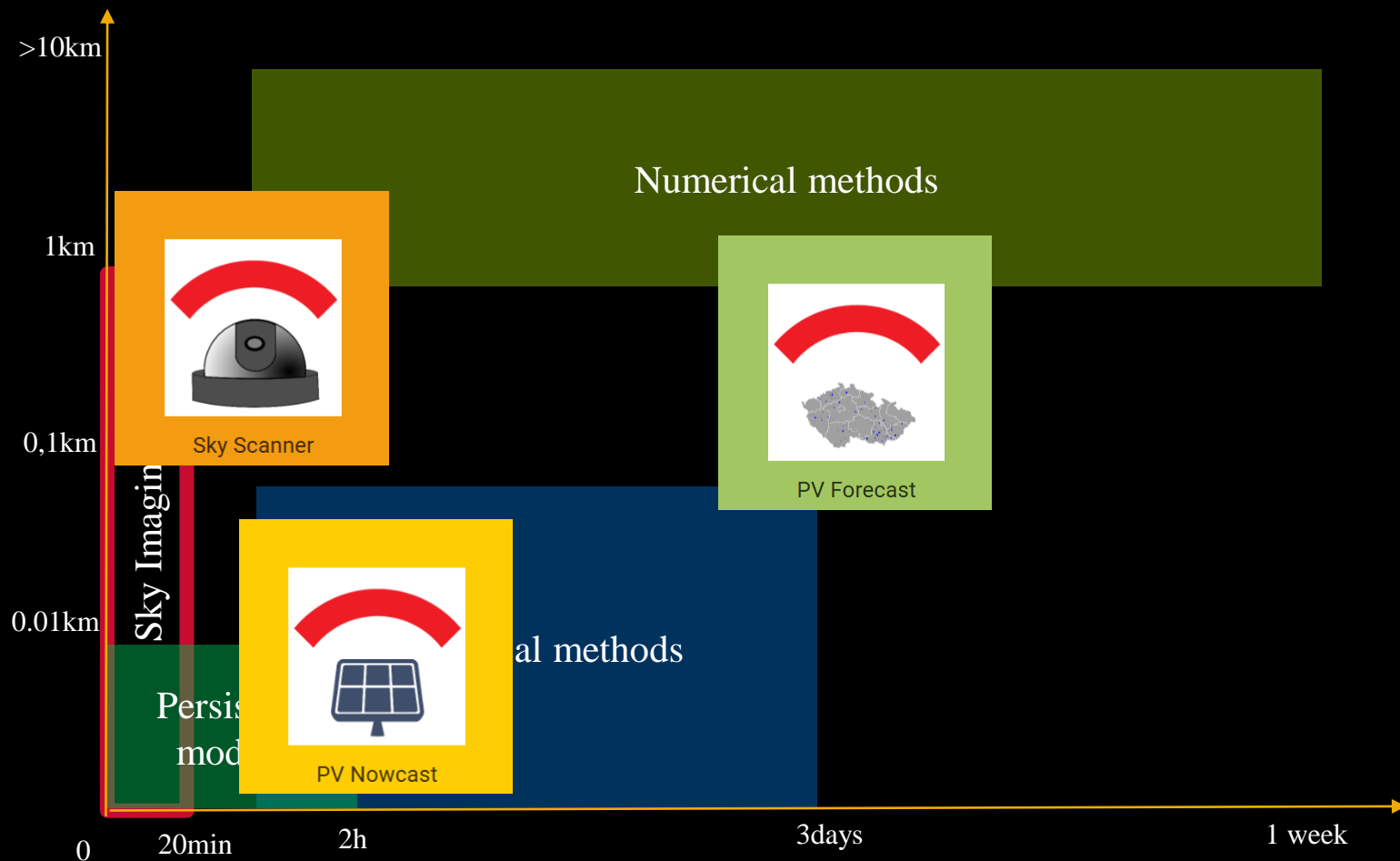
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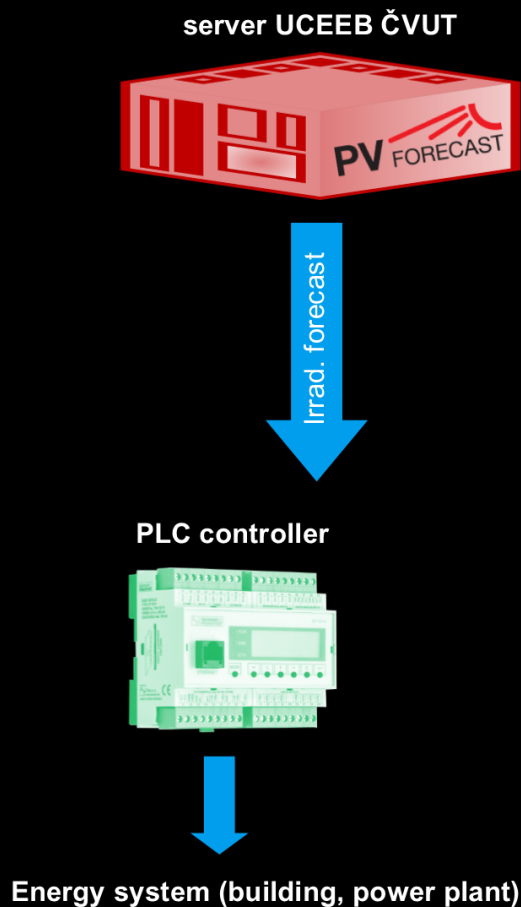


COMPLEX IRRADIANCE FORECAST



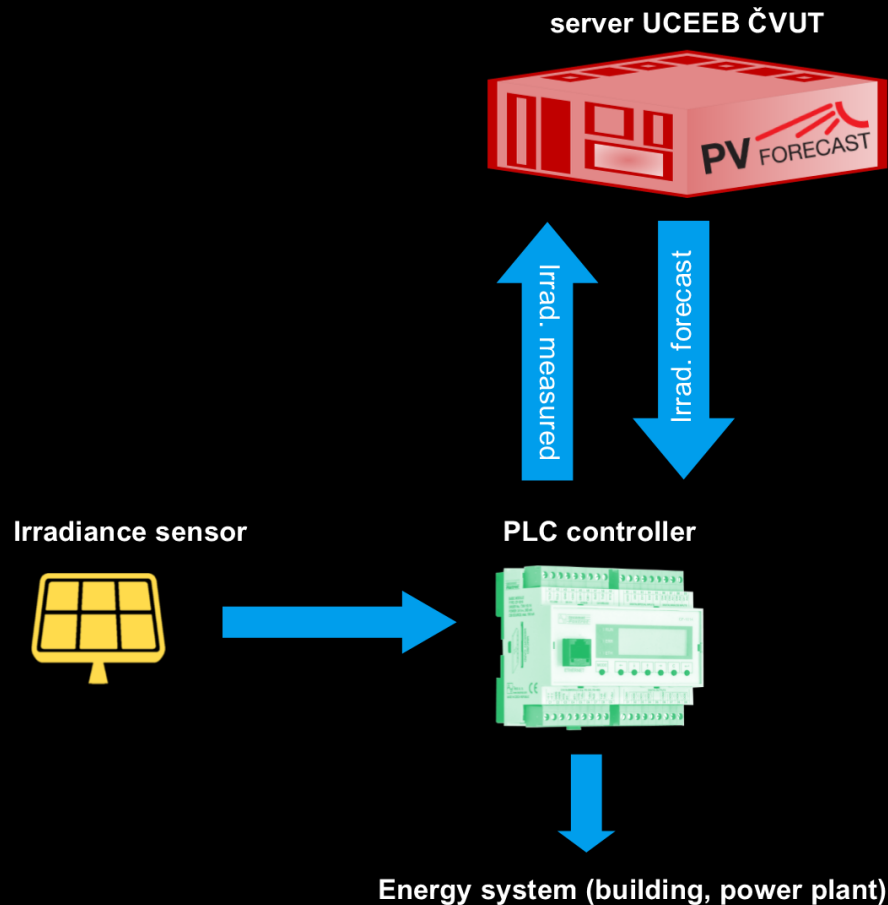


COMPLEX IRRADIANCE FORECAST: SERVICE PROVIDED



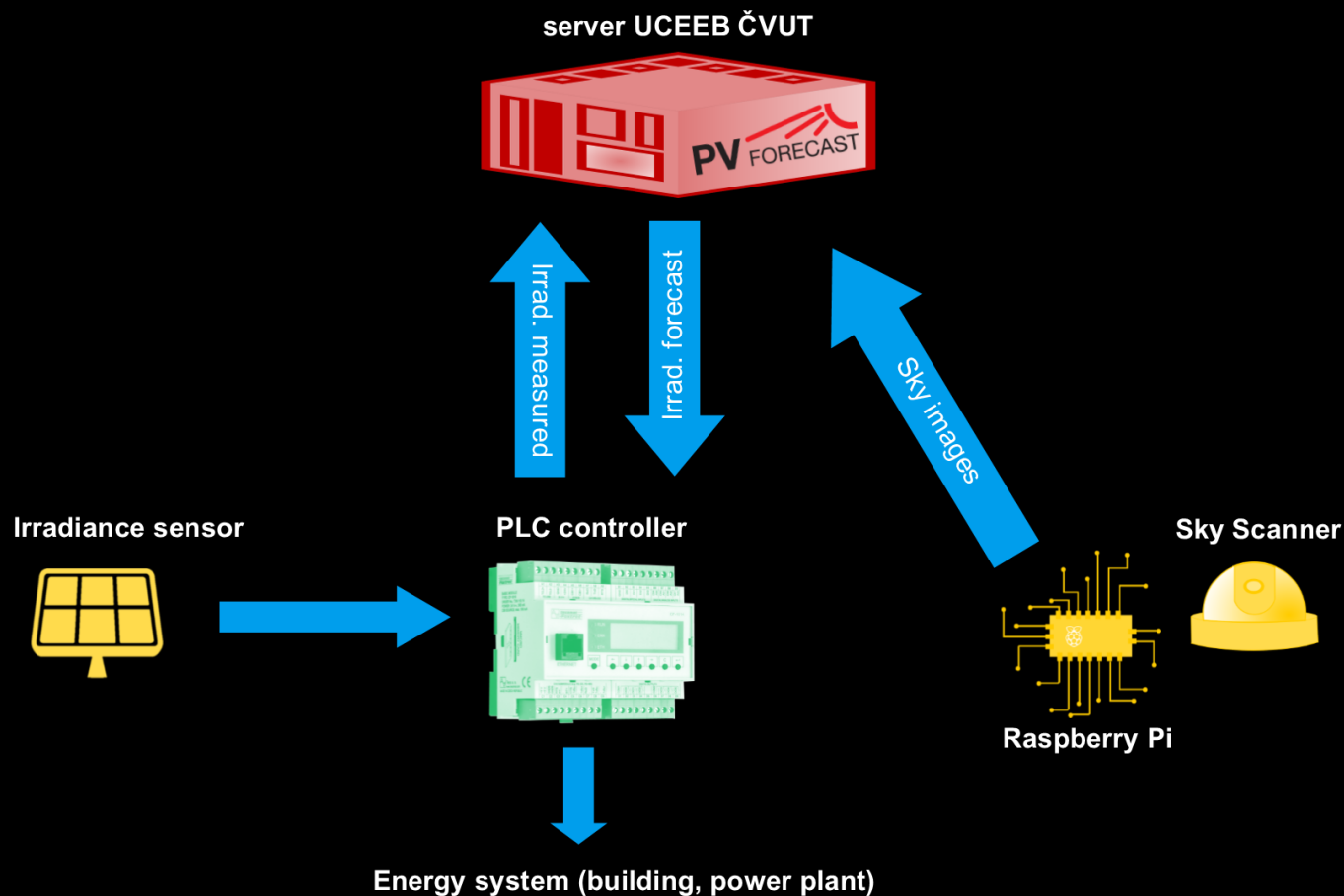


COMPLEX IRRADIANCE FORECAST: LOCAL FEEDBACK



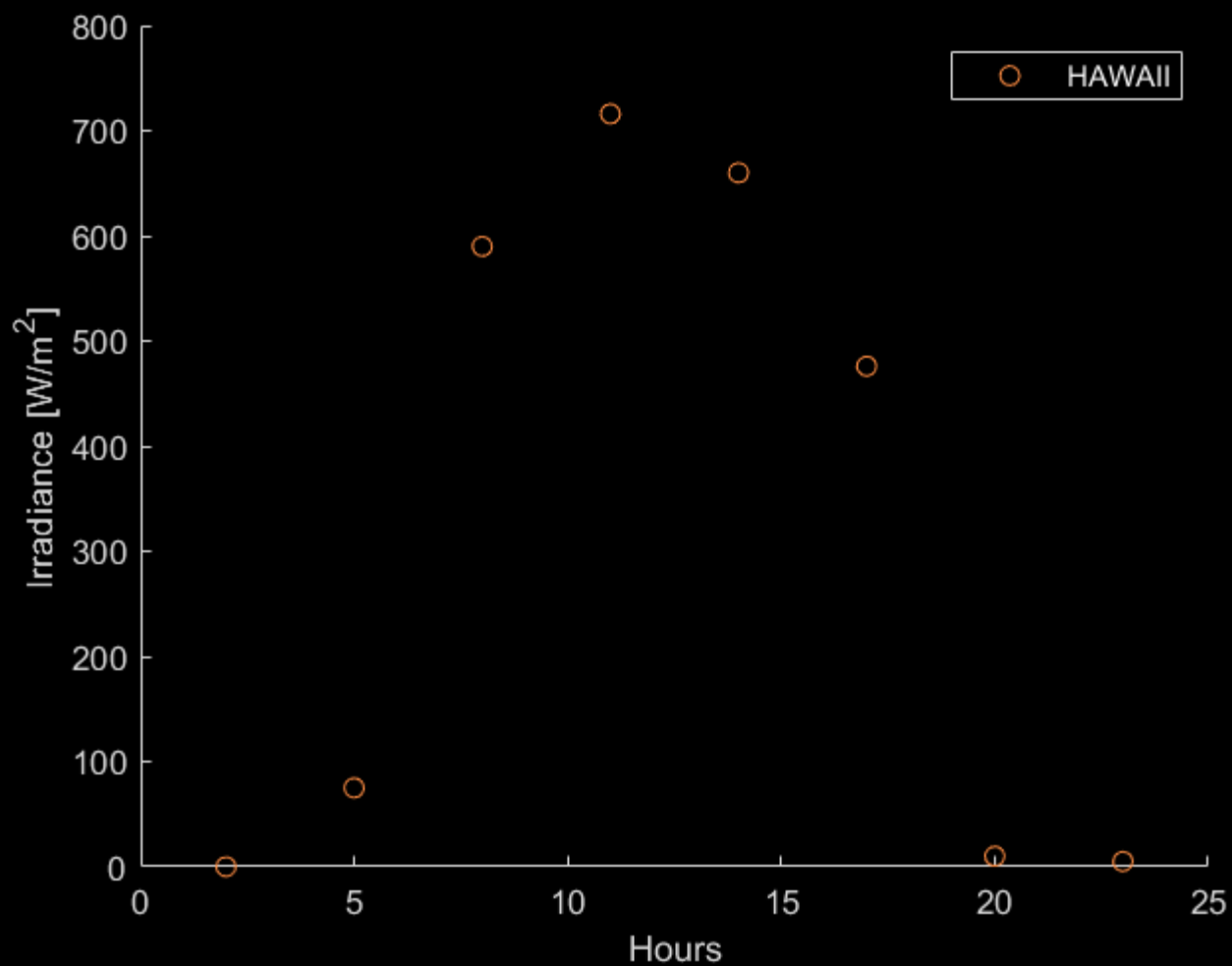


COMPLEX IRRADIANCE FORECAST: SKY IMAGER



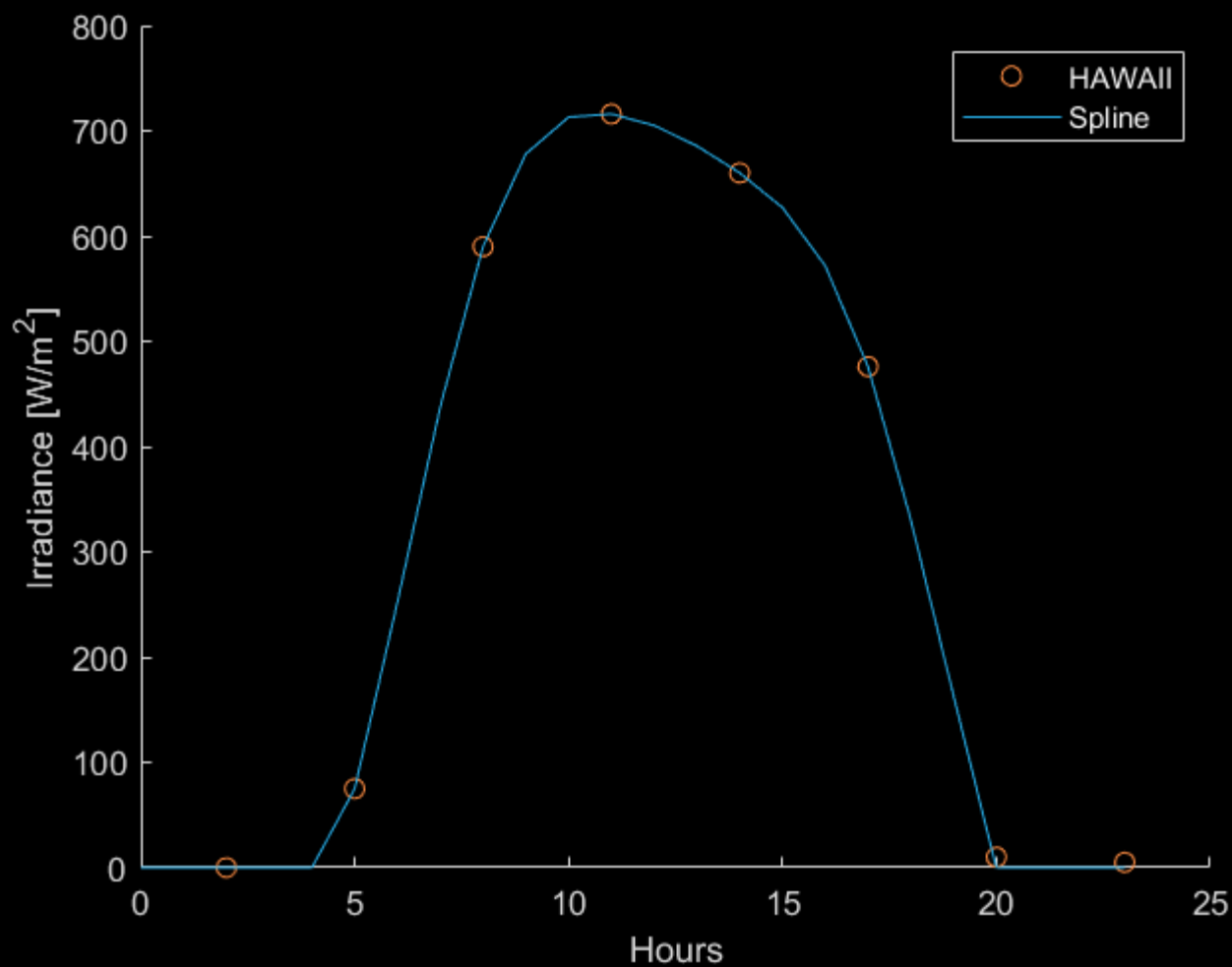


PV FORECAST: HAWAII



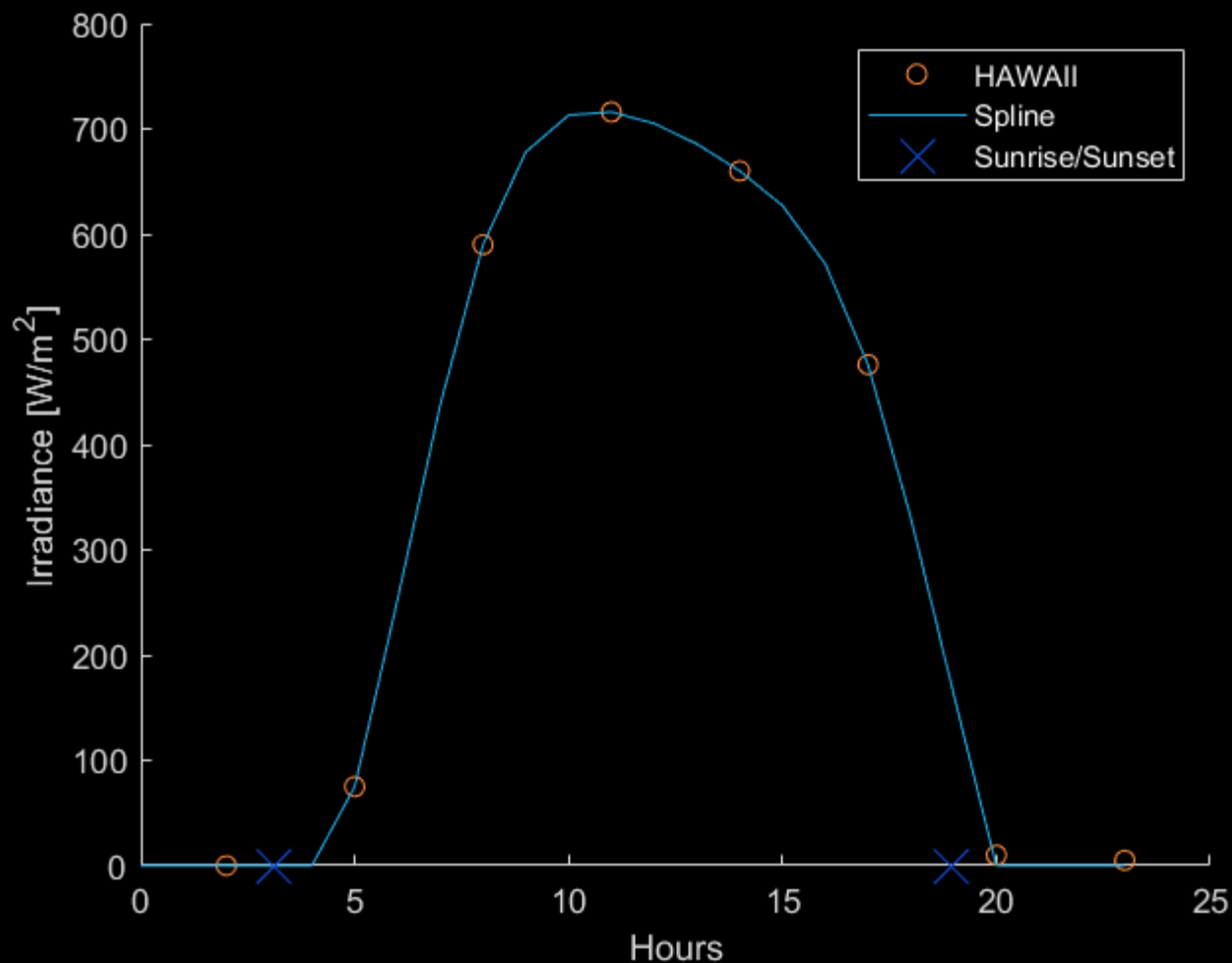
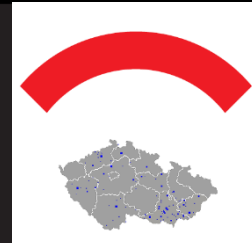


PV FORECAST: HAWAII



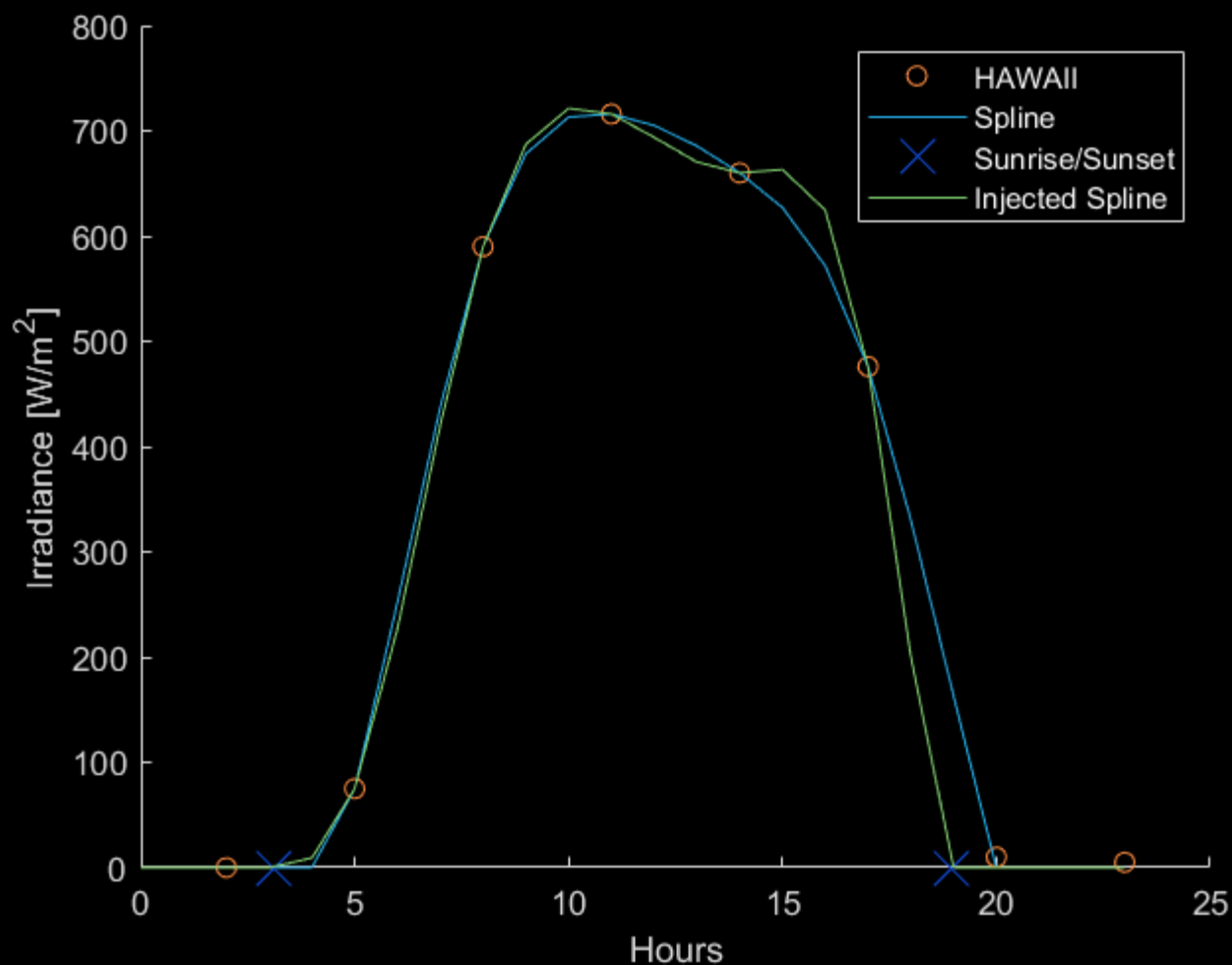
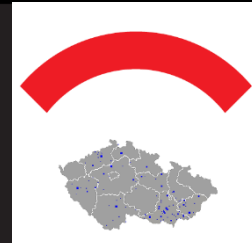


PV FORECAST: HAWAII



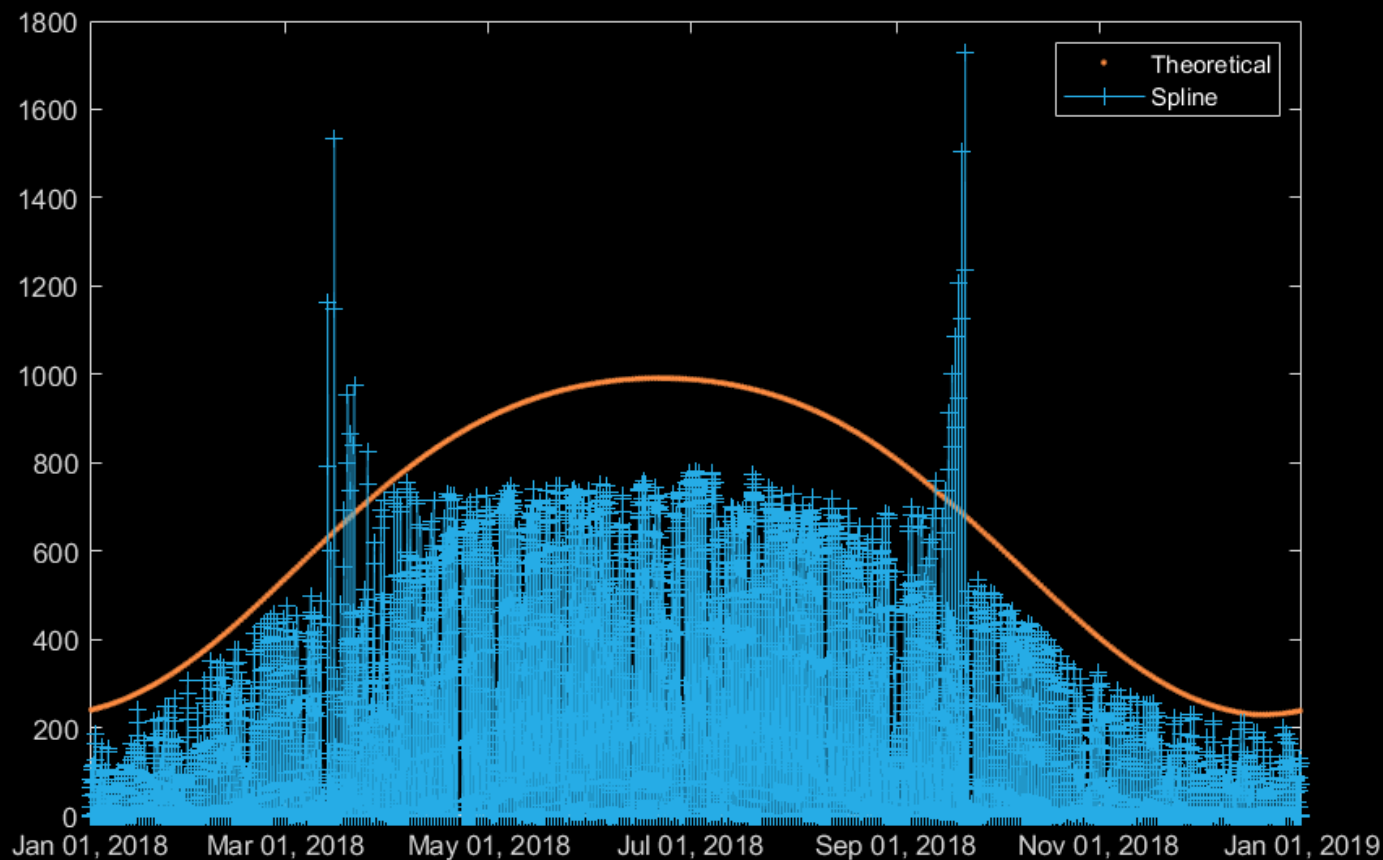
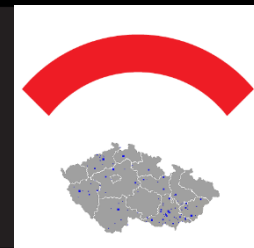


PV FORECAST: HAWAII



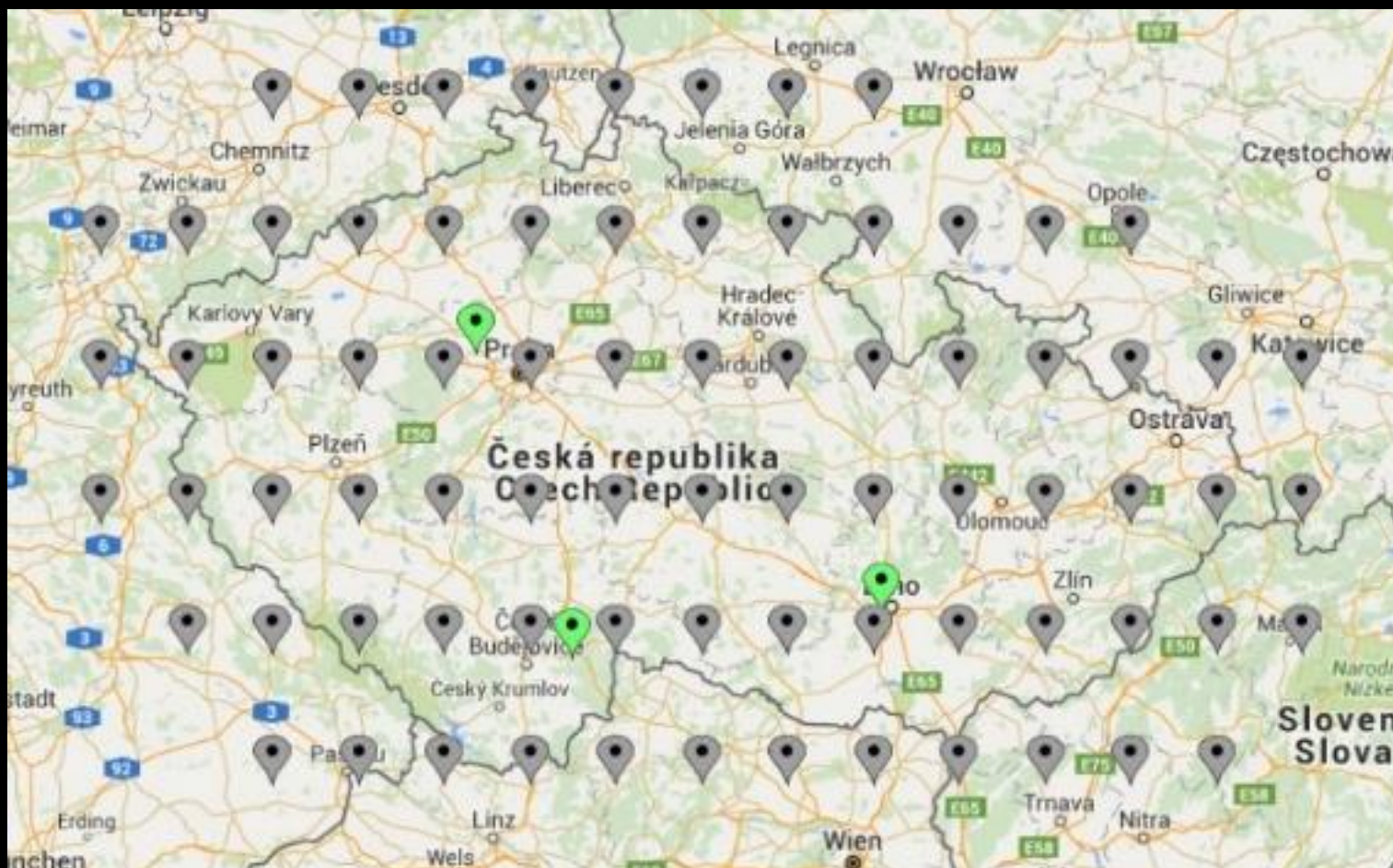
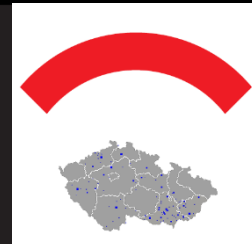


PV FORECAST: SPLINE OVERSHOOT



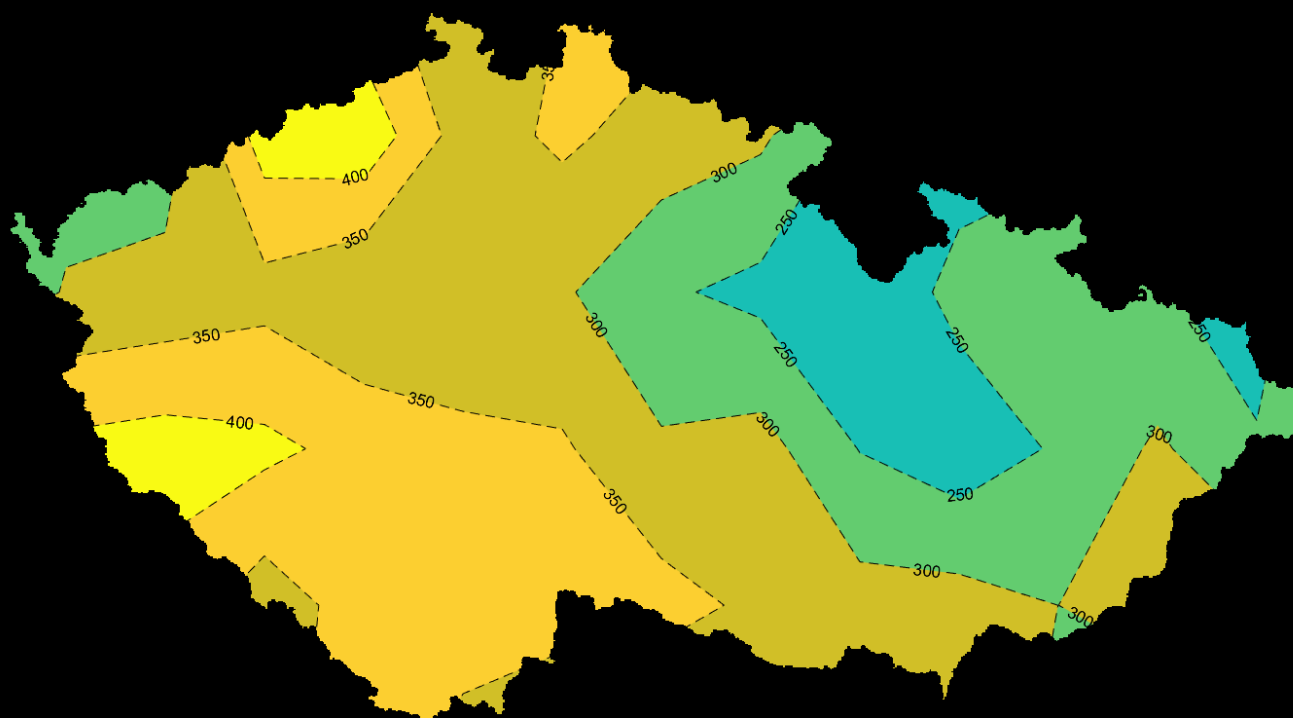
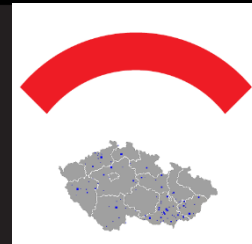


PV FORECAST: FEEDBACK POINTS





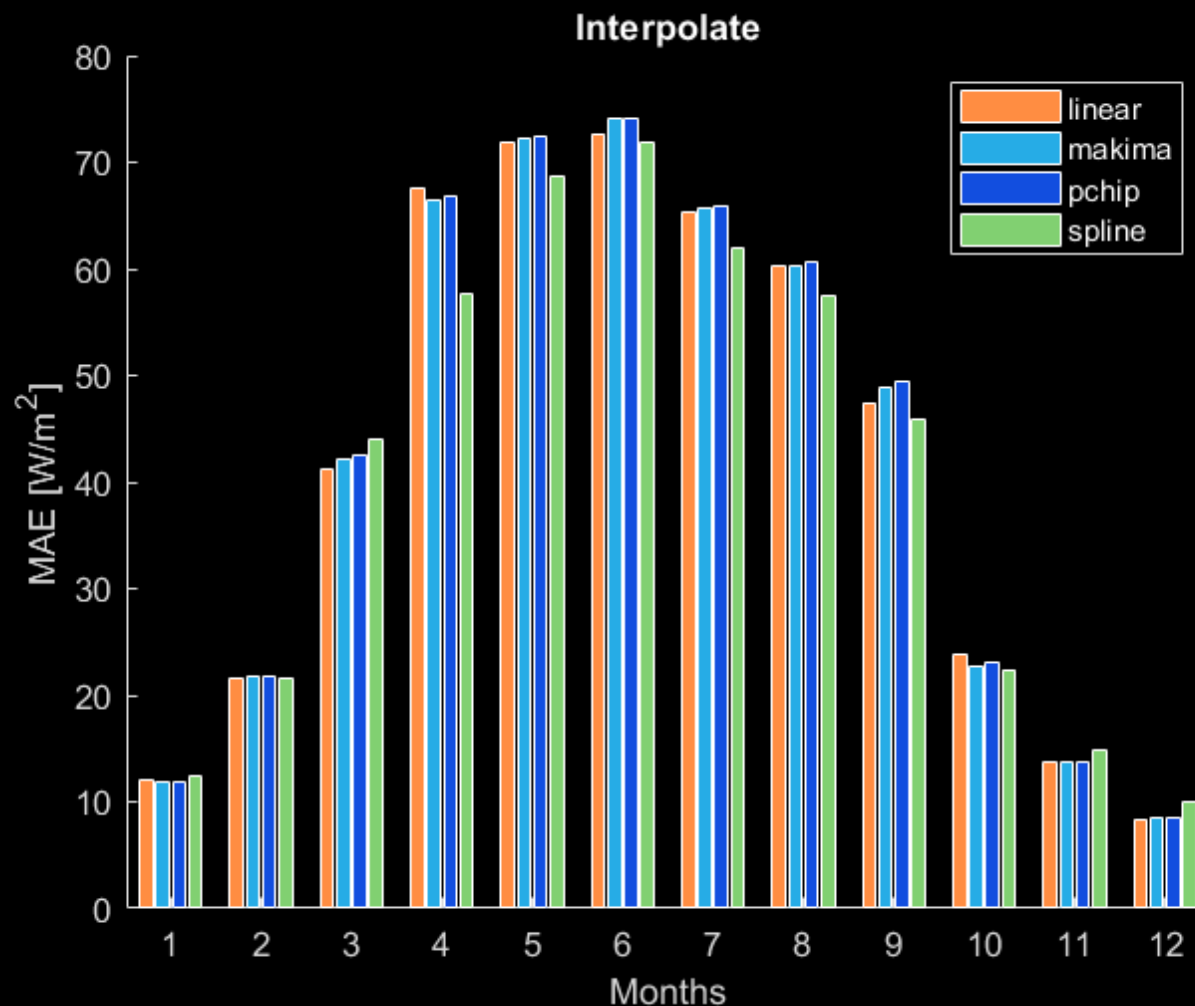
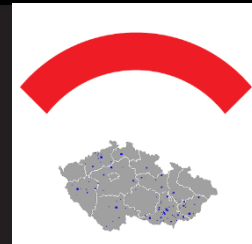
PV FORECAST: IRRADIANCE HEATMAP



5 days forecast | 1h resolution

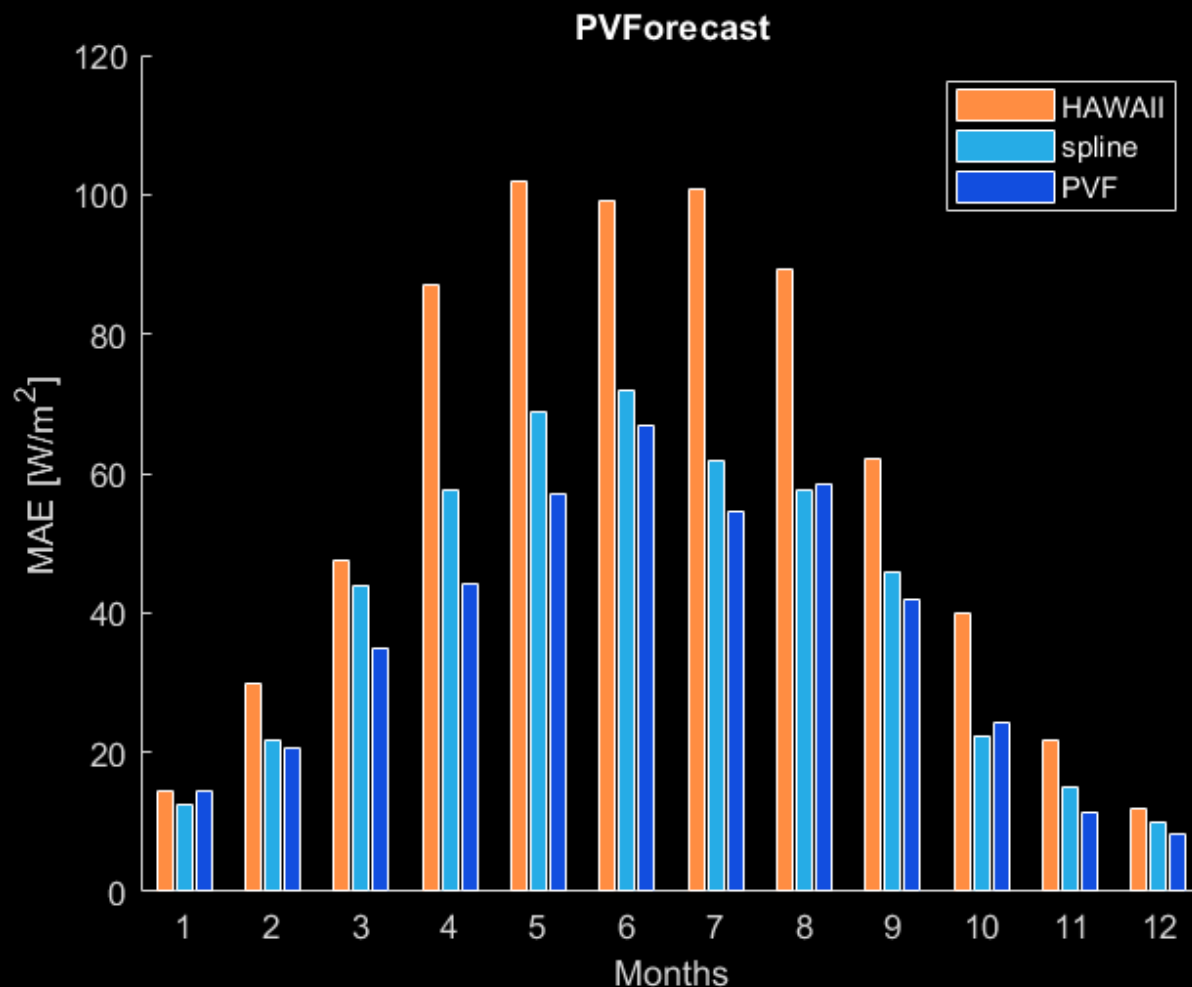
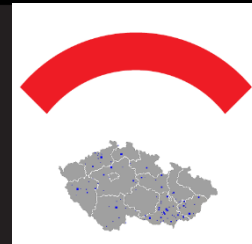


PV FORECAST: INTERPOLATION COMPARISON



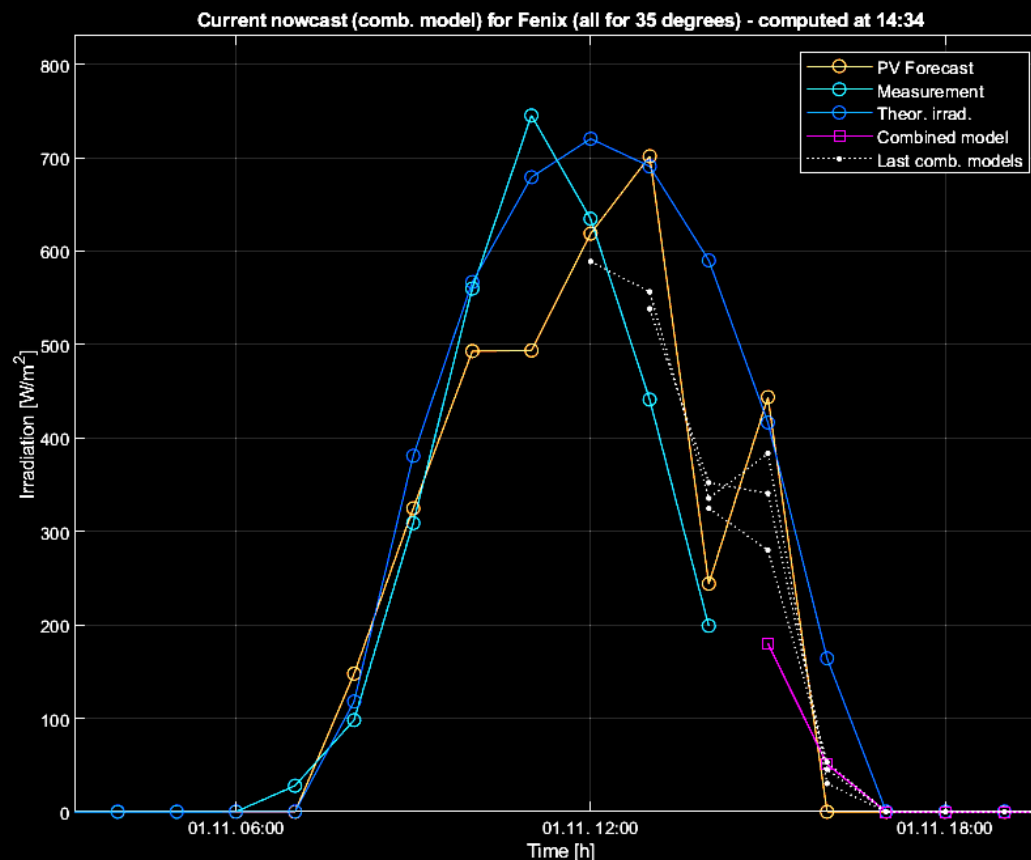


PV FORECAST: OVERALL ERROR





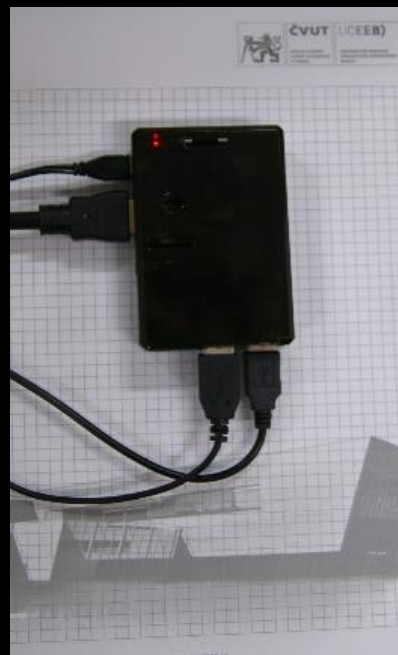
PV NOWCAST



8h nowcast | 1h resolution



SKY SCANNER



20min-1h forecast
1min resolution
1min update

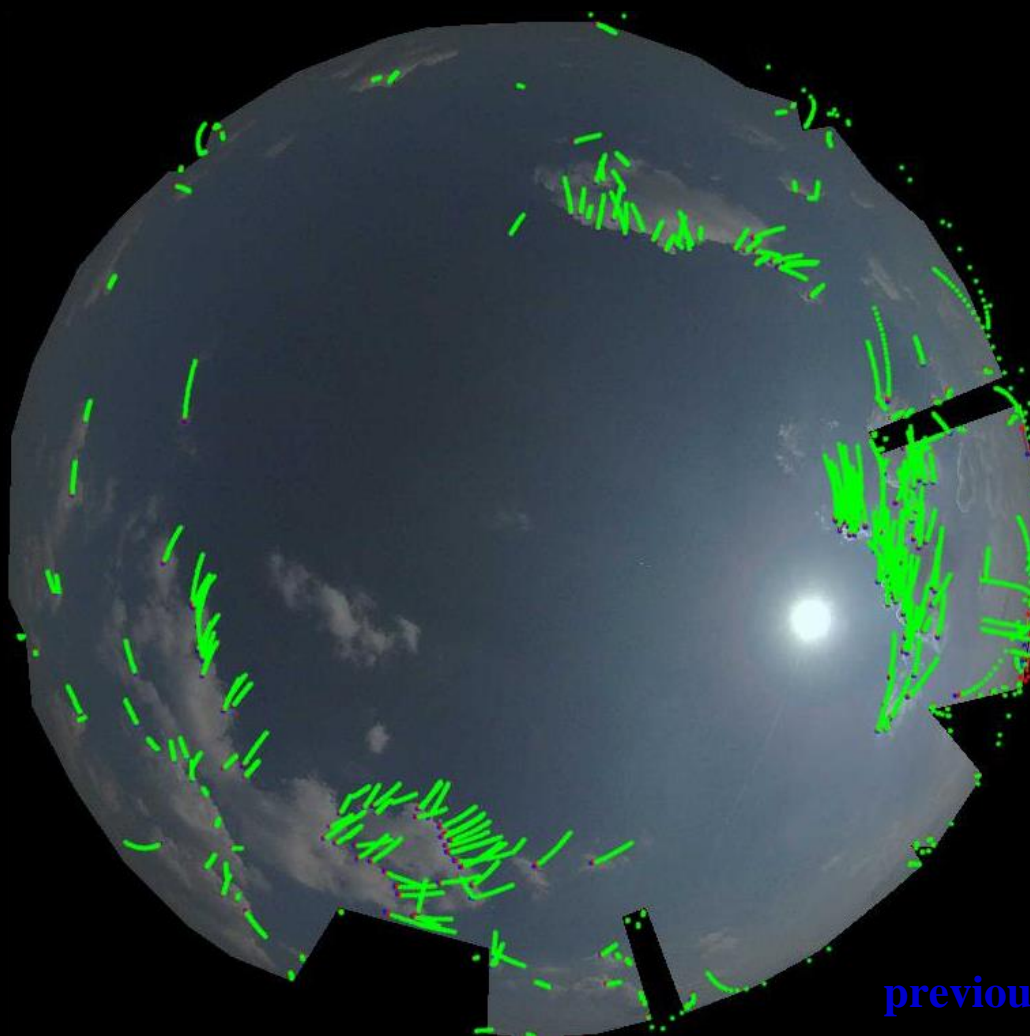








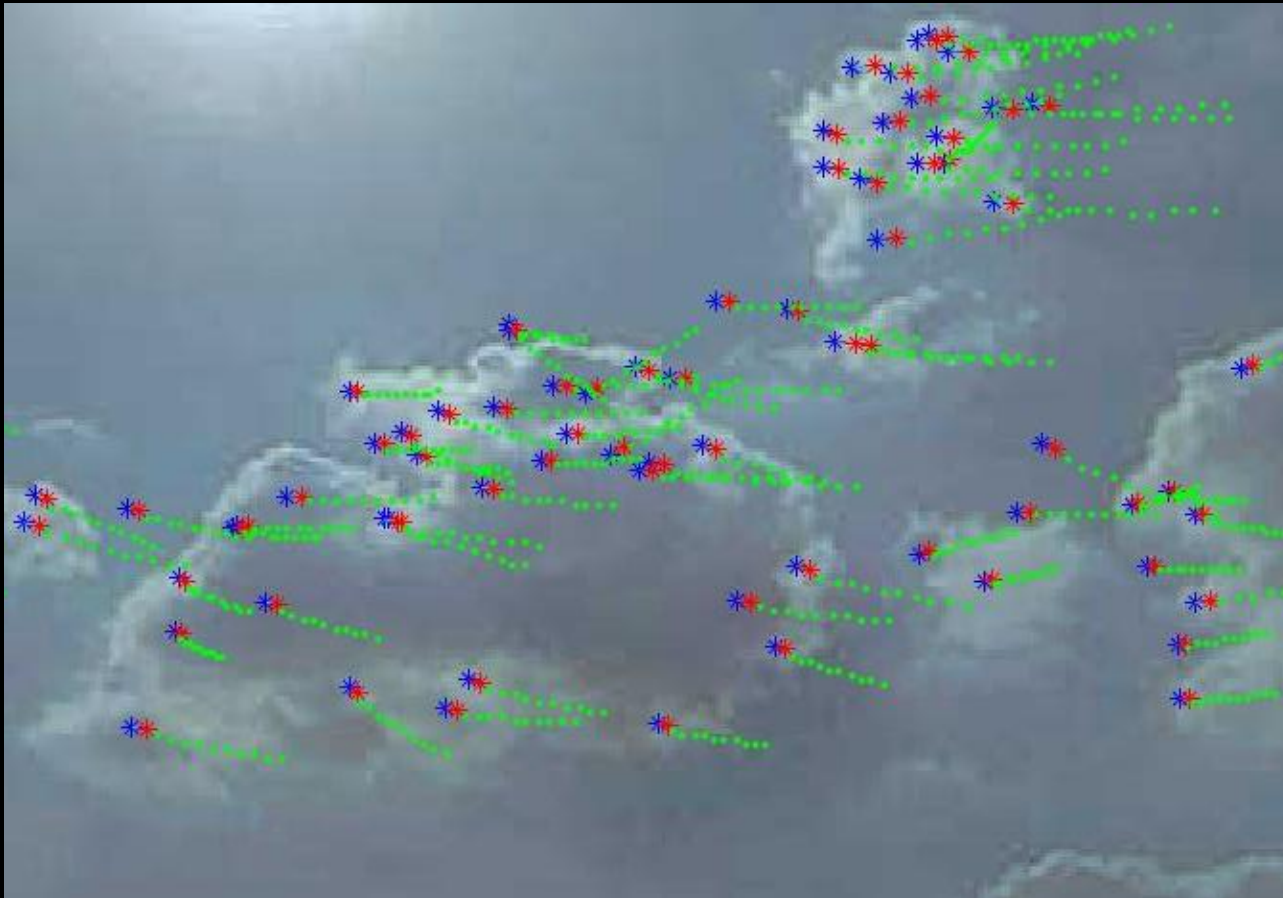
CLOUD TRACKING



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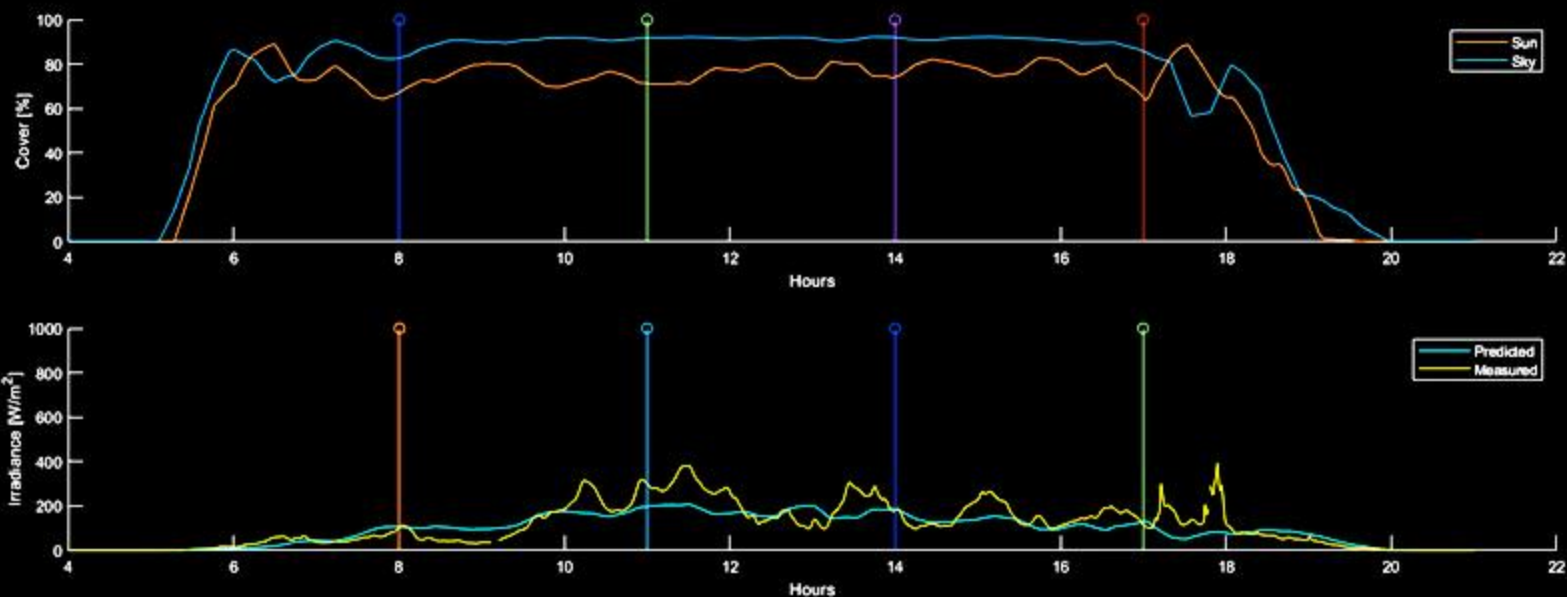
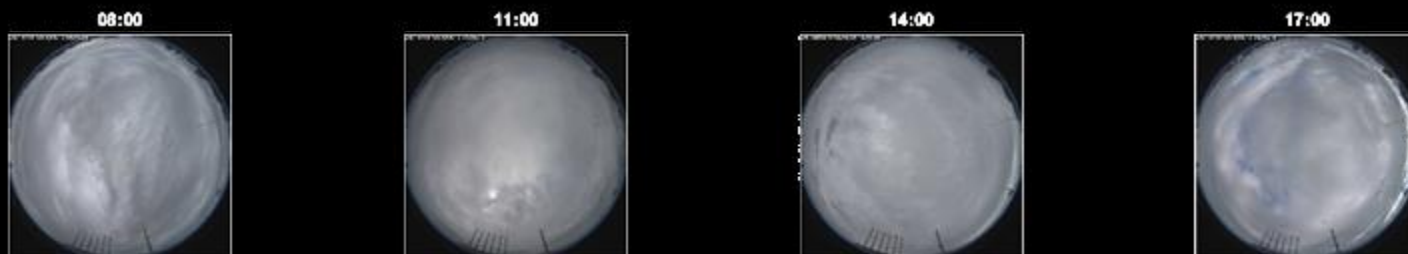
CLOUD TRACKING



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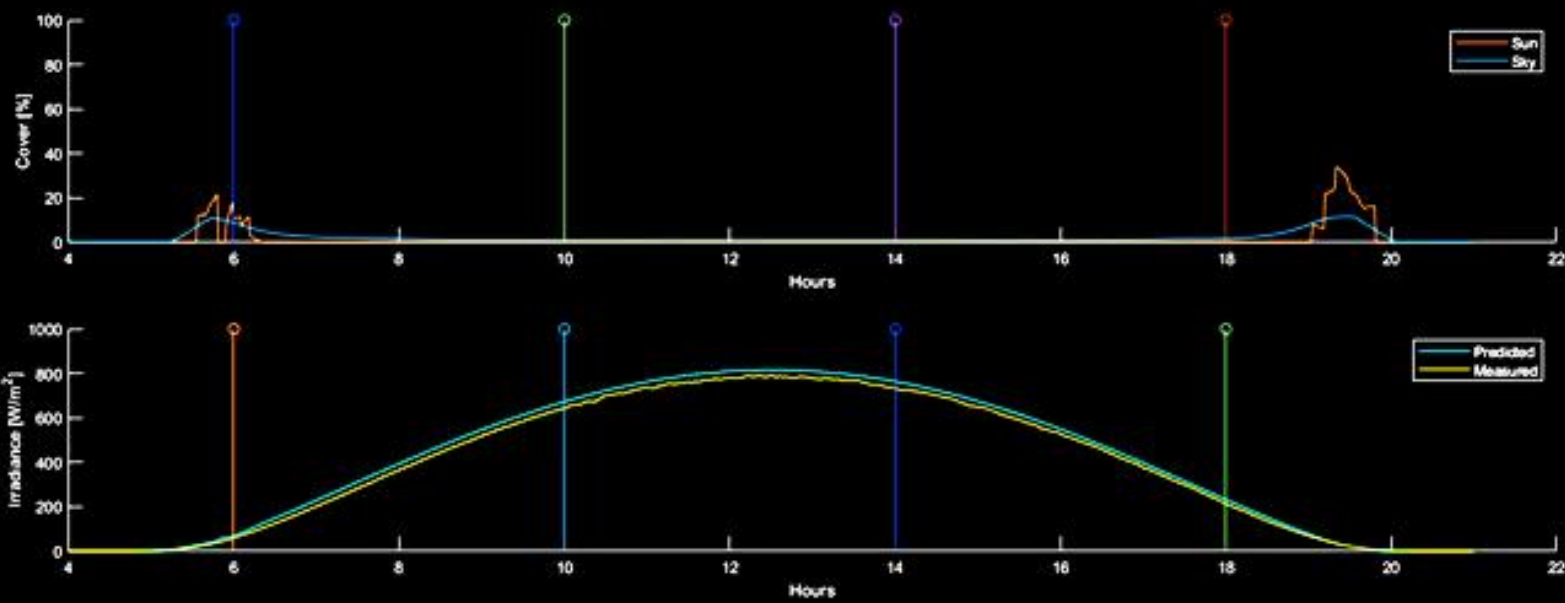
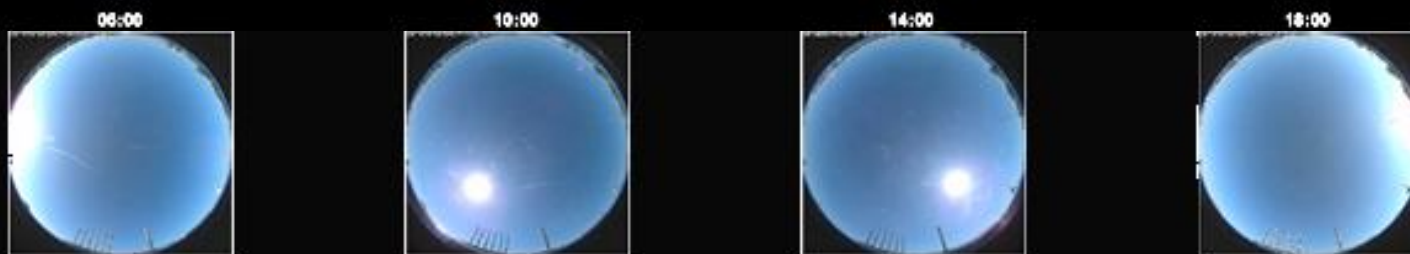


ZATAŽENO



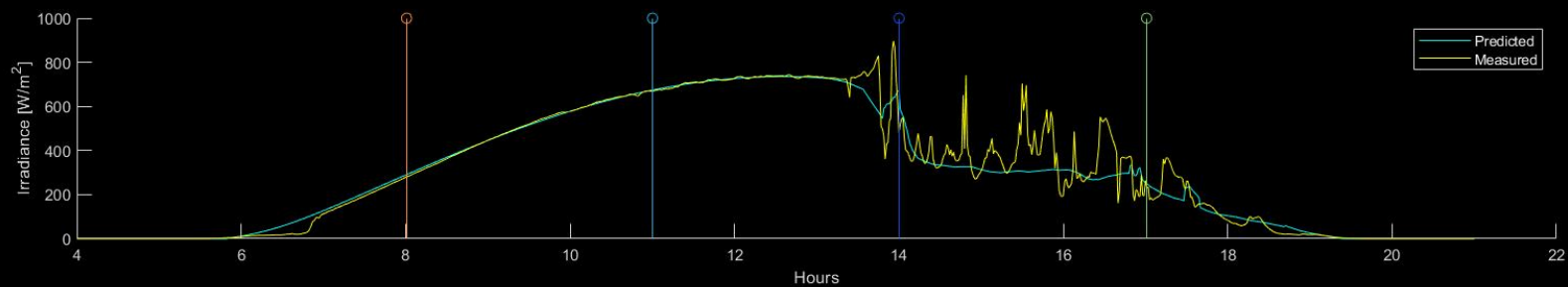
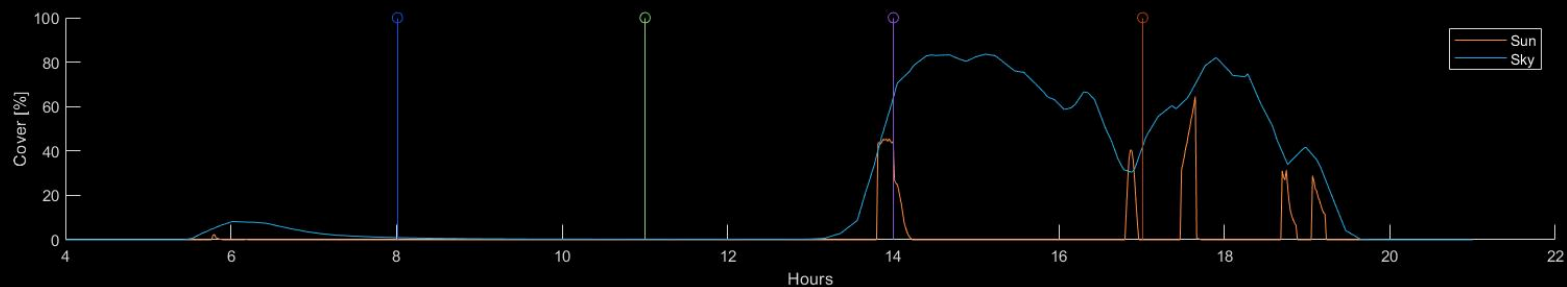
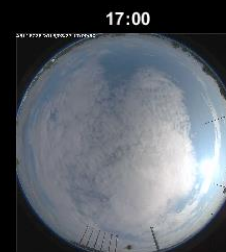


JASNO



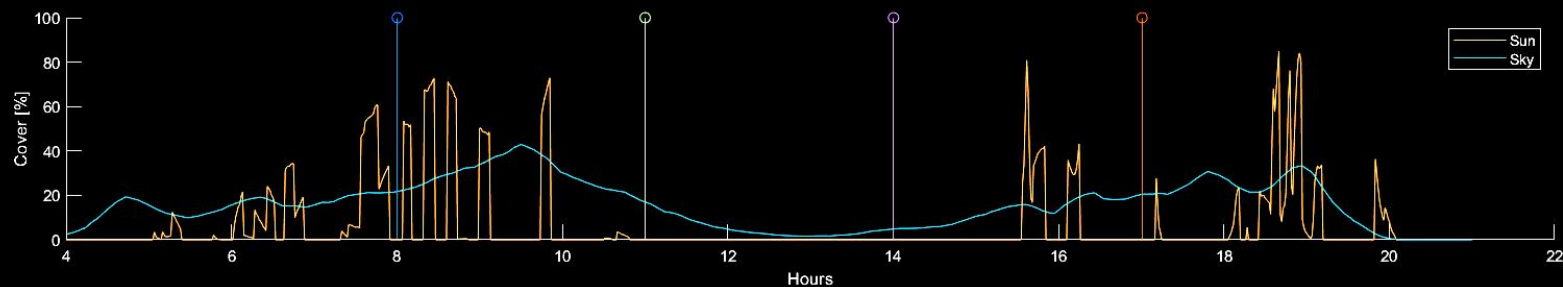


POLOJASNO



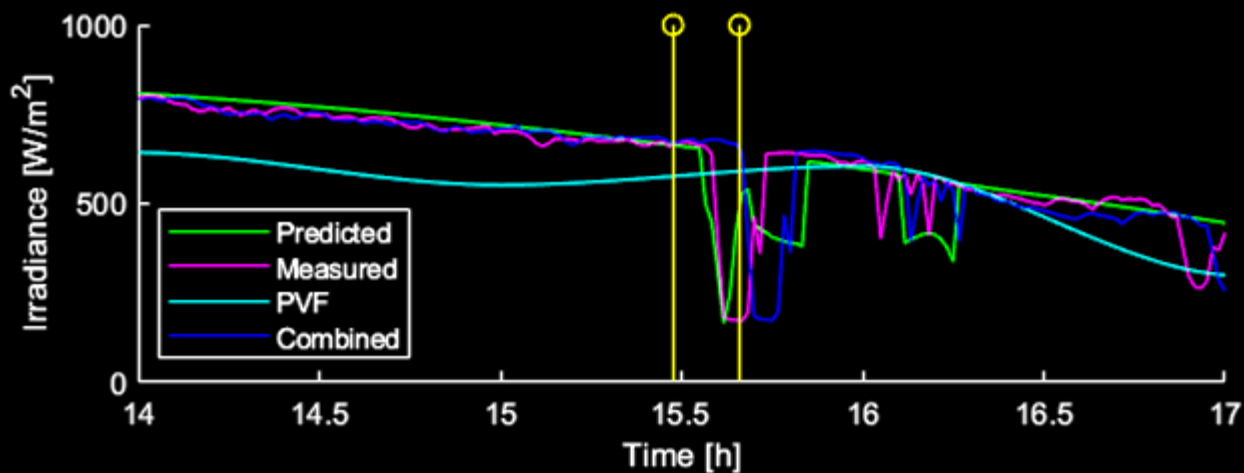


OBLAČNO



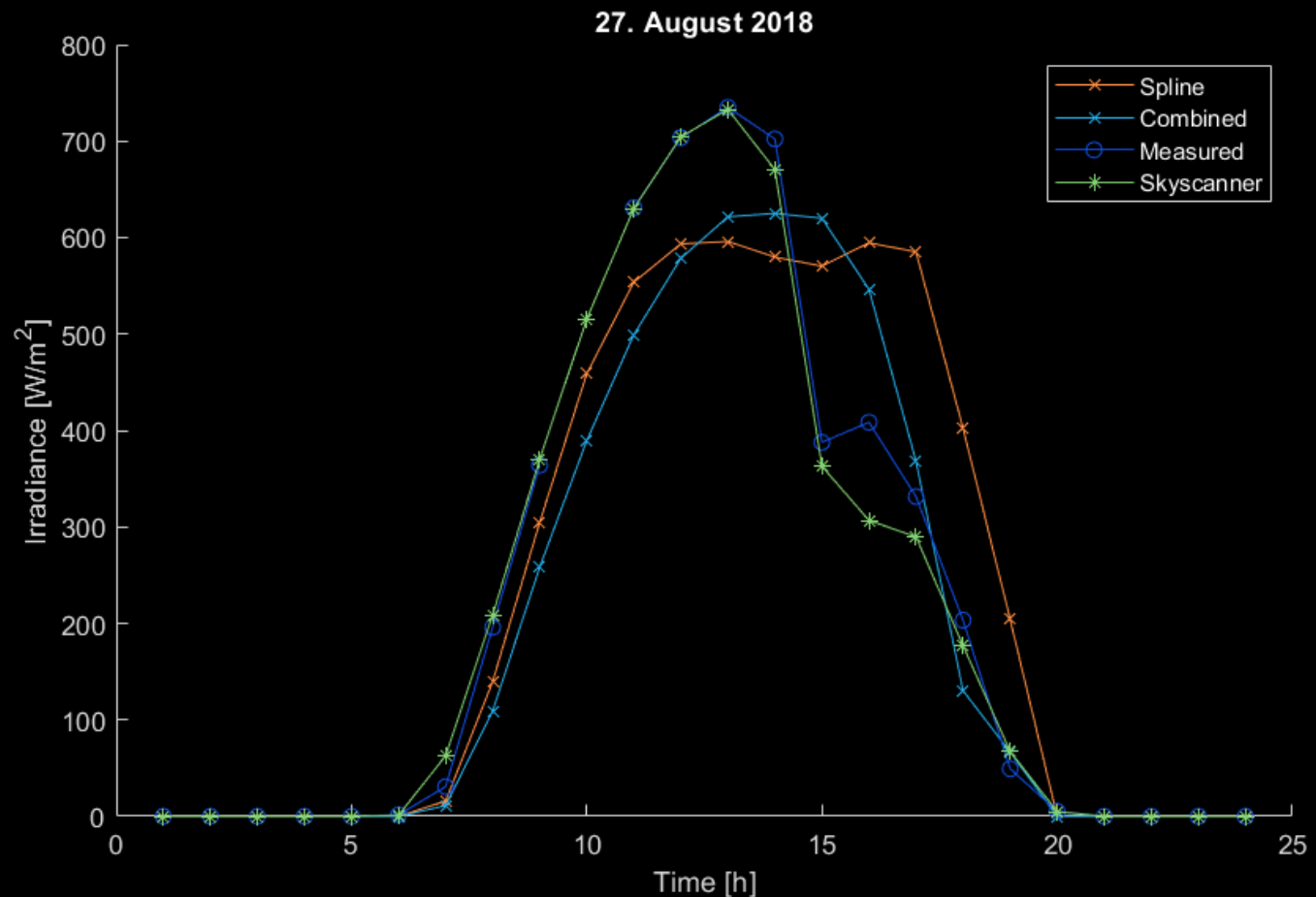


DIRECT SUN COVER



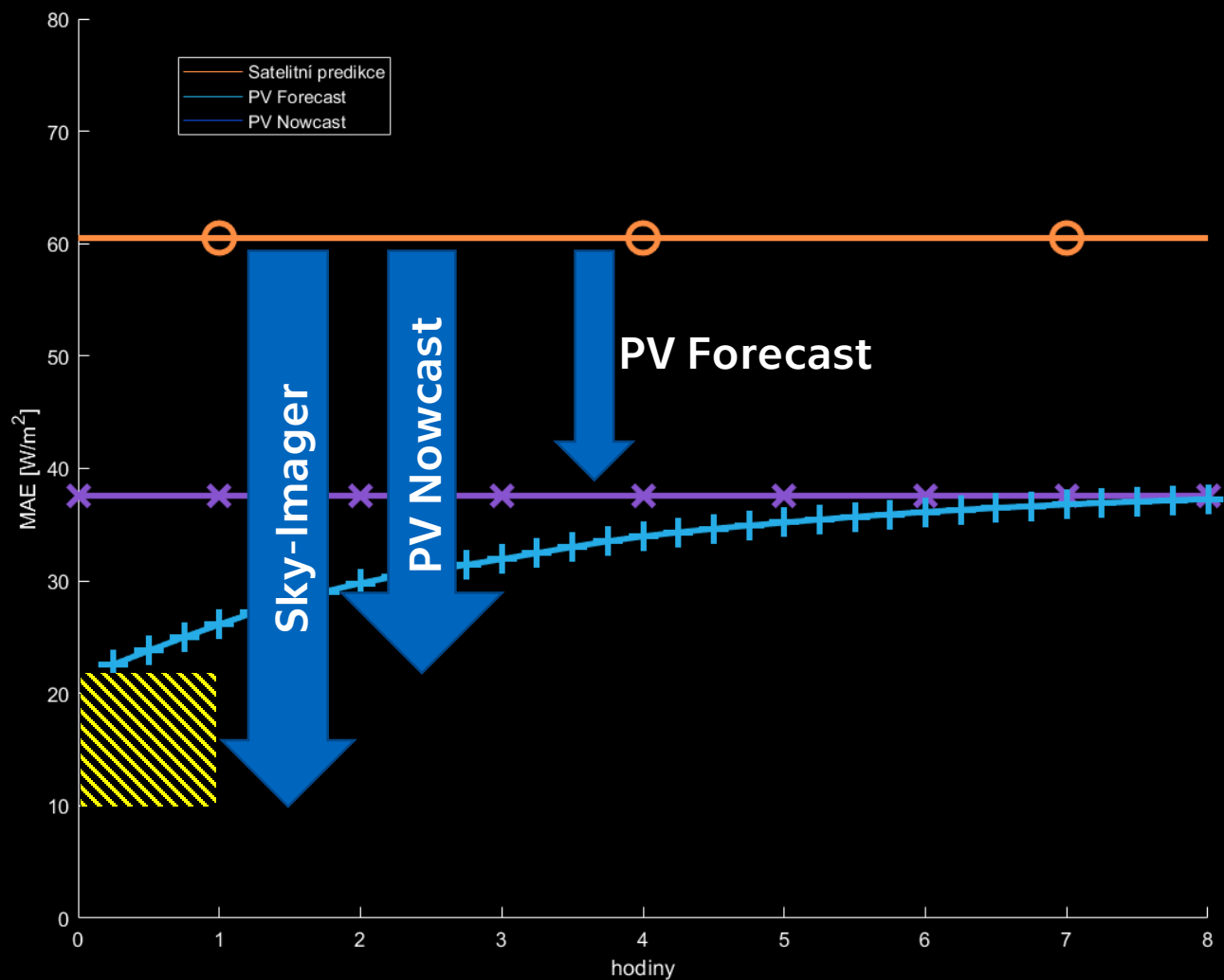


CONCLUSION: SAMPLE COMPARISON





CONCLUSION: ERROR COMPARISON





**THANK YOU
FOR YOUR ATTENTION**





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