Implosion Example, Bias

Grant Hutchings

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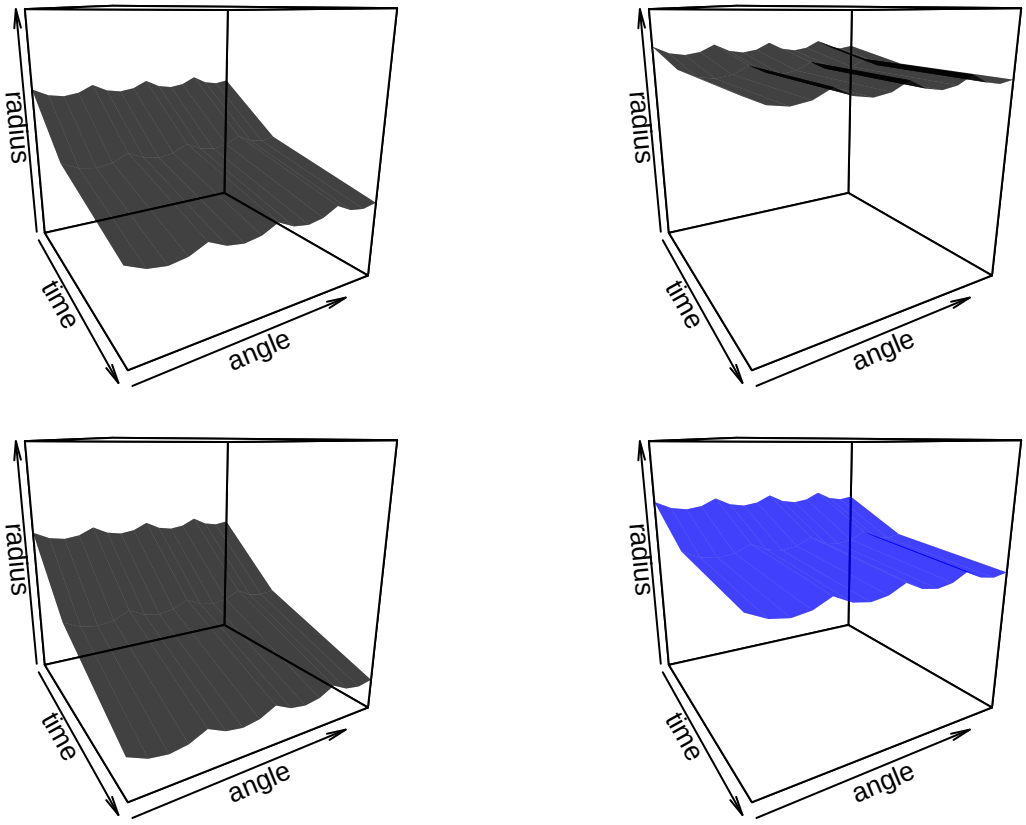
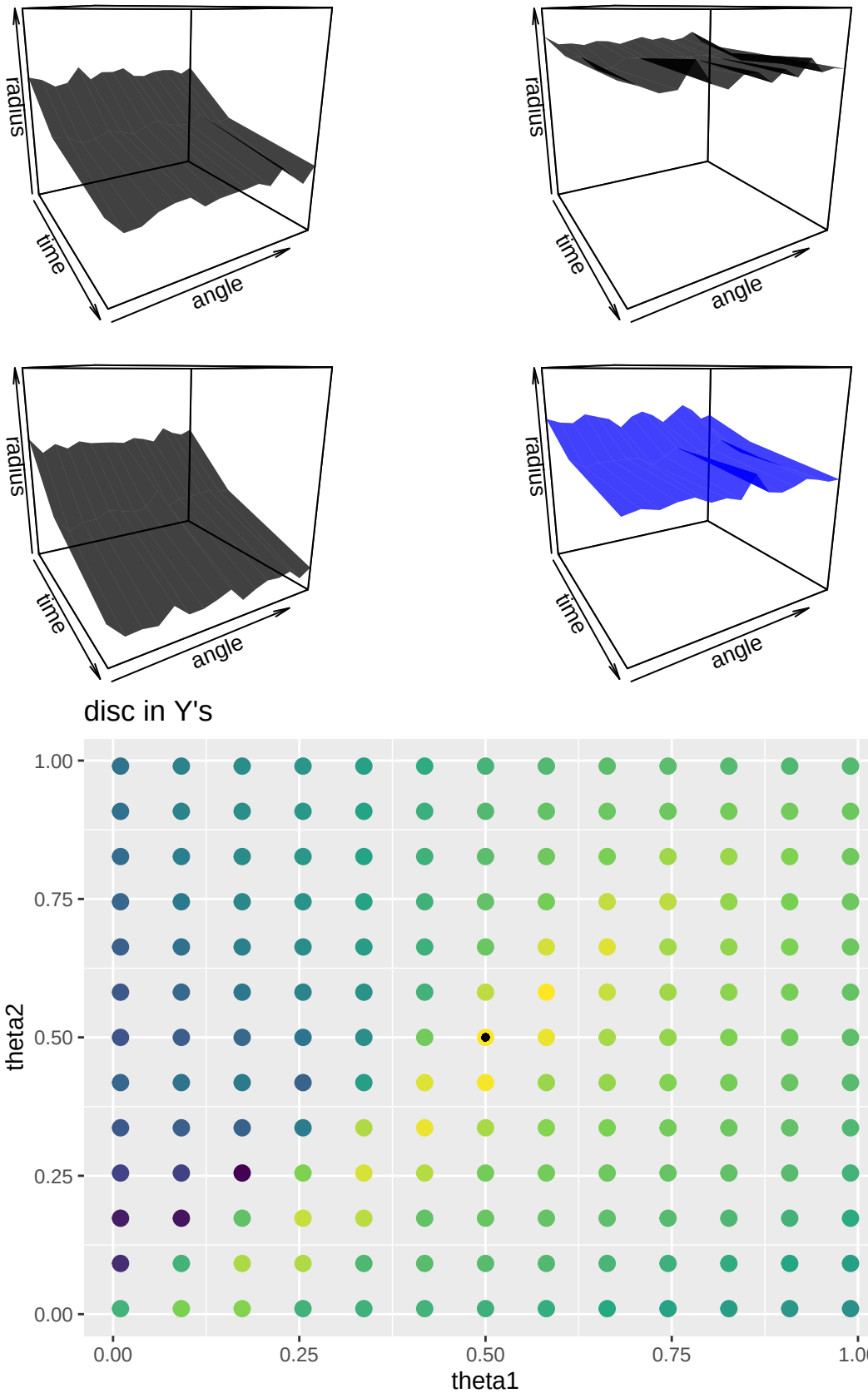
Now we add a periodic angle bias to the experimental data. In this first plot we show the new experimental data without noise, then in the next plot we show the noisy versions. We can see that the angle bias should not be too hard to model, as its a simple periodic function. We will add slightly less noise with $\sigma_y = .05$.



Even with this small amount of noise, it is difficult to visually tell bias from noise.



Predictions 1-3 show clear evidence of the discrepancy GP over-fitting. This is a problem when we move to

out of sample prediction as we can see in the lower right plot. This would get better with more data, but we probably need a less flexible discrepancy model. We also see that estimated error variance is too small.

```
## Error Variance Estimation
## true sd: 0.05
## est sd : 0.0251
```