

## Standardized peak density

As previous section, but for standardized peak density.

### 0.5° elevation angle

```
peak.std.e1.model = stationary.radar.model.light("logst(peak.std.e1)",dt1,elev="e1")
```

```
##              df      AIC
## mod.interact 25.88700 369.4469
## mod.light    19.87233 375.6902
## mod.light.year 22.19399 378.8855
bm = peak.std.e1.model
```

Best model includes *light*  $\times$  *year* interaction.

```
summary(bm)
```

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## eval(parse(text = response.name)) ~ eval(LIGHT) * year + s(as.numeric(eval(TIME)),
##   by = year) + s(eval(BIRD_DENSITY), by = year)
##
## Parametric coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)   -1.146e+04  5.042e+03  -2.273  0.02419 *
## eval(LIGHT)1    8.075e-01  2.168e-01   3.724  0.00026 ***
## year2012       1.077e+04  5.160e+03   2.088  0.03818 *
## year2013       1.142e+04  5.166e+03   2.210  0.02836 *
## year2015       1.044e+04  5.070e+03   2.059  0.04093 *
## year2016       4.154e+03  8.692e+03   0.478  0.63329
## eval(LIGHT)1:year2012 4.105e-01  4.072e-01   1.008  0.31468
## eval(LIGHT)1:year2013 -1.998e-01  3.146e-01  -0.635  0.52623
## eval(LIGHT)1:year2015  8.522e-01  2.929e-01   2.910  0.00406 **
## eval(LIGHT)1:year2016 -1.305e-01  3.485e-01  -0.374  0.70858
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Approximate significance of smooth terms:
##              edf Ref.df    F p-value
## s(as.numeric(eval(TIME))):year2010 1.000  1.000 5.166  0.0242 *
## s(as.numeric(eval(TIME))):year2012 1.000  1.000 0.386  0.5351
## s(as.numeric(eval(TIME))):year2013 1.000  1.000 0.001  0.9757
## s(as.numeric(eval(TIME))):year2015 1.000  1.000 3.702  0.0559 .
## s(as.numeric(eval(TIME))):year2016 1.000  1.000 1.064  0.3035
## s(eval(BIRD_DENSITY)):year2010    4.175  5.107 2.813  0.0129 *
## s(eval(BIRD_DENSITY)):year2012    1.000  1.000 0.289  0.5917
## s(eval(BIRD_DENSITY)):year2013    1.540  1.790 2.358  0.1221
## s(eval(BIRD_DENSITY)):year2015    1.383  1.667 3.197  0.0661 .
## s(eval(BIRD_DENSITY)):year2016    1.788  2.153 1.120  0.4872
```