

# AIDS - Semiparametric Mixed Model

December 4, 2025

The "AIDS"-data from "catdata" are loaded.

```
library(catdata)
data(aids)
```

As for normal GAMs for GAMMs the package "mgcv" is used.

```
library(mgcv)
```

The Semiparametric Mixed Model (or Generalized Additive Mixed Model) for "AIDS"-Data is fitted by the function "gamm". Here the only random effect is the random intercept.

```
gammaids<-gamm(cd4 ~ s(time) + drugs + partners + s(cesd) + s(age),
               random=list(person=~1), family=poisson(link=log), data=aids)
```

The summary of the fixed effects is printed.

```
summary(gammaids$gam)
```

Finally the three smooth effects from the gam are plotted.

```
plot(gammaids$gam,ylab=" ",cex.lab=1.8,cex.axis=1.5,select=1)
```

```
plot(gammaids$gam,ylab=" ",cex.lab=1.8,cex.axis=1.5,select=2)
```

```
plot(gammaids$gam,ylab=" ",cex.lab=1.8,cex.axis=1.5,select=3)
```