

**Rosso model** equation is:

- when  $t \leq \text{mean}(\lambda)$

$$N_t = N_0$$

- otherwise

$$N_t = N_{max}/(1 + A \times B)$$

where:

$$A = N_{max}/N_0 - 1$$

$$B = \exp(-\mu_{max} \times (t - \lambda))$$

$t$  is time. The parameters to estimate are  $\mu_{max}$ ,  $\lambda$ ,  $N_0$  and  $N_{max}$ .  
The noisy output is defined as:

$$N_t = (1 - \%noise) \times N_t + \xi(N_t \times \%noise)$$

where  $\xi$  is random numbers from Poisson distribution with mean parameter  $N_t \times \%noise$ .

### Example of Rosso curve

Time unit is hour. Maximal time is 500h.  $\mu_{max} = 0.05$ ,  $\lambda = 40$ ,  $N_0 = 230$  and  $N_{max} = 4e8$ .

