

```

        //... int0=const uintmax_t;
        //... for // each 3 bytes. int64_t i; uint8_t
        //... steps; if ref; t:=ref; // Random number genem
        //... behind() l); guide_left = malloc(s
        //... r (k,l) uint64_t random_bit
        //... + base << j; base += B;
        //... t := J-up, uint64_t s
        //... sh <= 18); hash =
        //... 6); j hash += f'
        //... side_up = NULL; i'
        //... do_left = NULL; i'
        //... } from(guide_from,
        //... end); if (guide_let
        //... t = malloc(sizeof(t));
        //... t = malloc(sizeof(t));
        //... guide_down[i] = "t"; guide_sensum,,
        //... L-1); guide_down[0] = "L(L-1); guide_bah..
        //... Nah,uh"); if (beta < k) DIE("intended to u
        //... t = exp(-x*beta); // Sigmoidal); // exp(-beta * x)
        //... /)) Obtain a spin glass in a random
        //... L = L; newmat.nc_steps = 0; set_h=
        //... (uint6_t i=0;i<L+1,i++) memm=
        //... .sizeof(newmat.spins) + L*L*k);
        //... ..ndown_bits[]; newmat.j_step[] = ran
        //... i=j; i=L-L+1,i++{ if (newmat.i_rag
        //... -j,front[]) = newmat.i_right(8) idem
        //... {struct netnet
        //... :right); strcpy(aes->j,
        //... int64_t id, int64_t z,
        //... = SC->t_front; uint64_t
        //... left[x]; uint64_t up =
        //... uint64_t front = SC[id]
        //... turn right = left + up + c
        //... (for(int64_t y=y0;y<y1;){
        //... 'axid,t spinid=x; spi
        //... @P[id]; if (P[id] <
        //... t ) else if (P > r
        //... d,j ) curr_iderr+=
        //... n"); for(int64_t
        //... t64,t array, int6
        //... # A = Logit(front);
        //... const int w = a
        //... ay(8)),int_com
        //... i,array[] = ar
        //... s acc = 0; for(
        //... ccid = 0; for(
        //... double (e+p
        //... ales to take
        //... samples);
        //... size());
        //... ples);
        //... i(int64_t
        //... s curr=
        //... ..L+1)/
        //... ..n";
        //... stur=

```

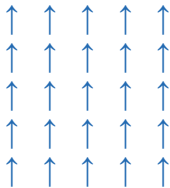
¿Qué es un vidrio de espín?

# ¿Qué es un vidrio de espín?

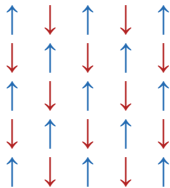


**FERROMAGNETISMO**

# ¿Qué es un vidrio de espín?

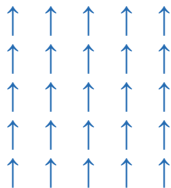


FERROMAGNETISMO

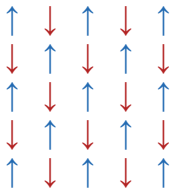


ANTIFERROMAGNETISMO

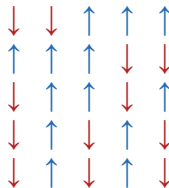
# ¿Qué es un vidrio de espín?



FERROMAGNETISMO

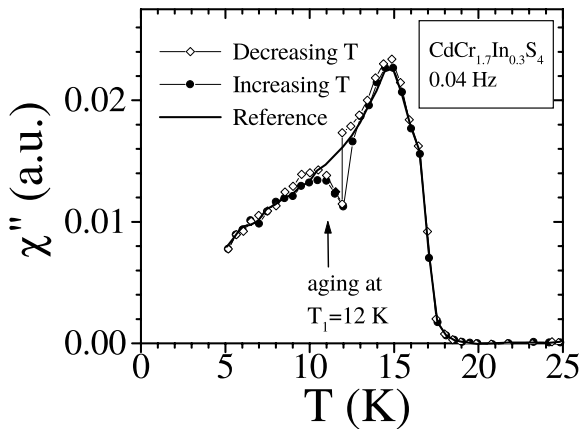


ANTIFERROMAGNETISMO

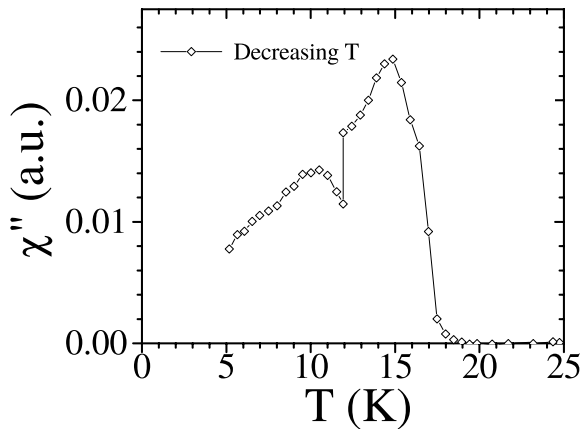


VIDRIO DE ESPÍN

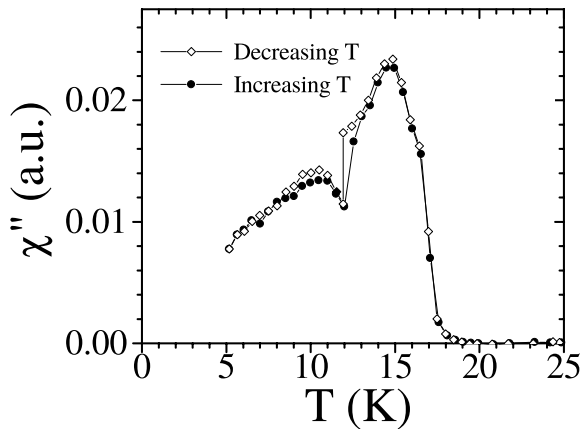
## Dip experiment protocol



## Dip experiment protocol

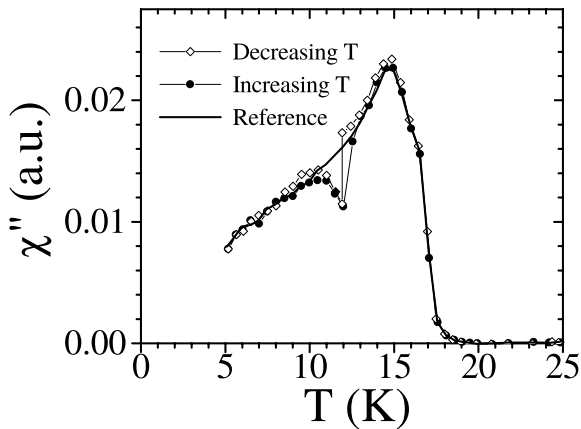


## Dip experiment protocol

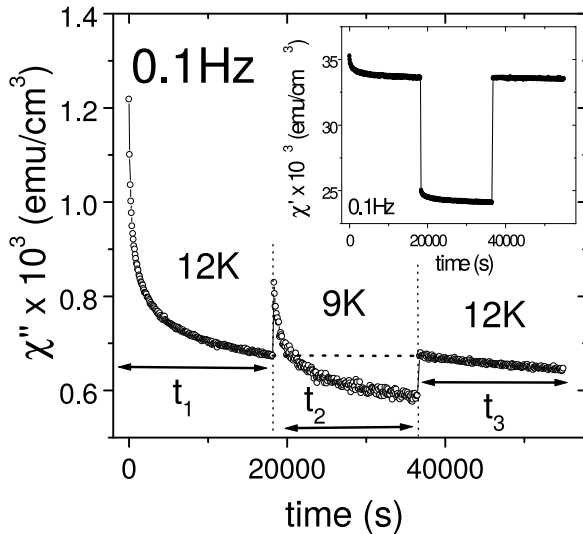




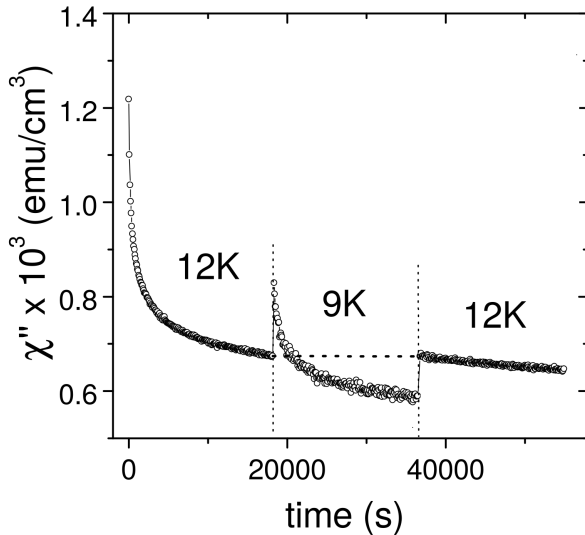
## Dip experiment protocol



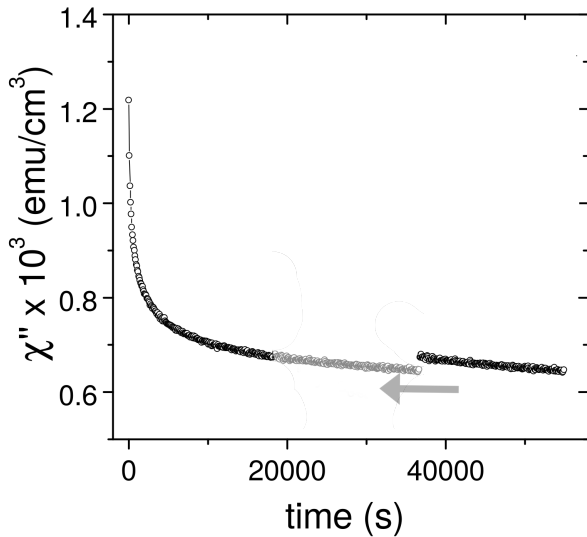
## Protocolo de dos temperaturas



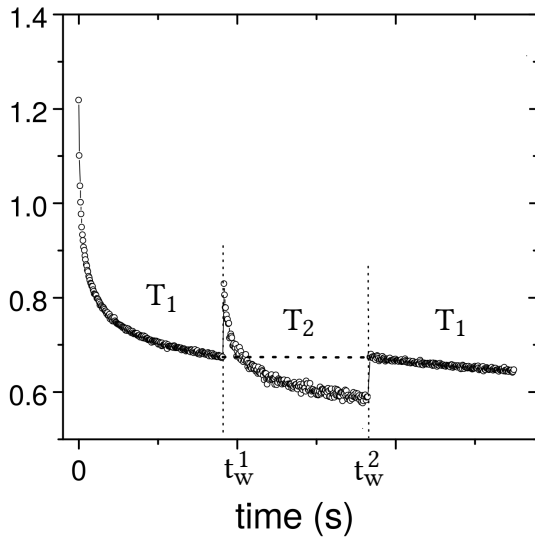
## Protocolo de dos temperaturas



## Protocolo de dos temperaturas



## Protocolo de dos temperaturas



# Modelo

# Modelo

$$J(r) \propto \frac{\cos(2K_F r)}{r^3}$$

# Modelo

$$J(r) \propto \frac{\cos(2K_F r)}{r^3}$$

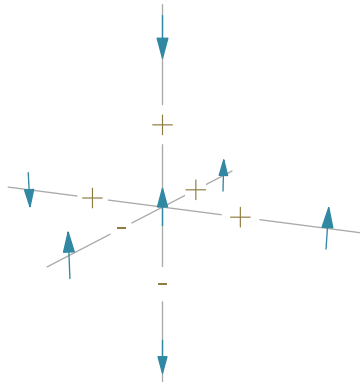
$$\mathcal{H} = - \sum_{\langle i,j \rangle} J_{ij} s_i s_j$$



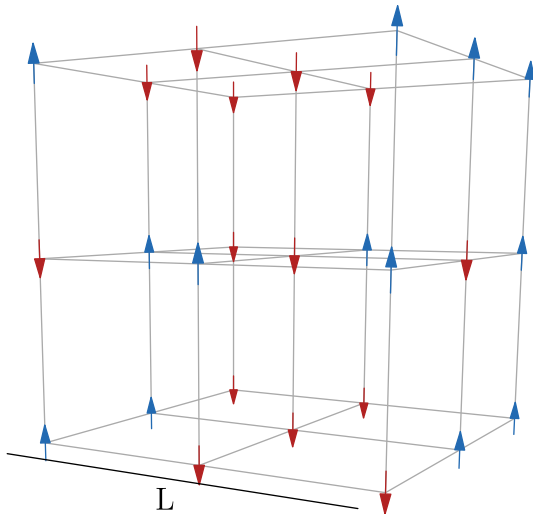
# Modelo

$$J(r) \propto \frac{\cos(2K_F r)}{r^3}$$

$$\mathcal{H} = - \sum_{\langle i,j \rangle} J_{ij} s_i s_j$$

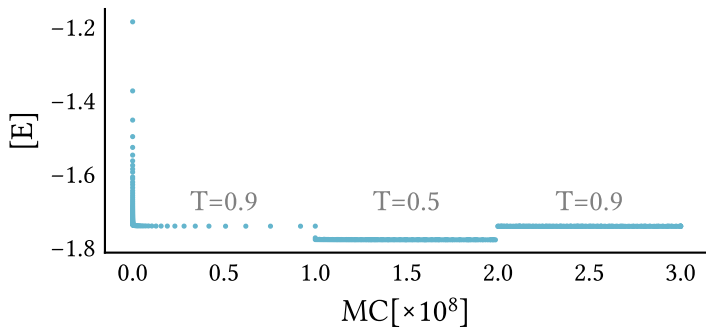


# Modelo



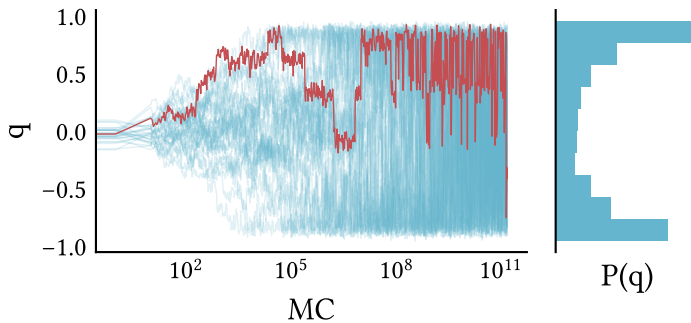
# Magnitudes

# Magnitudes



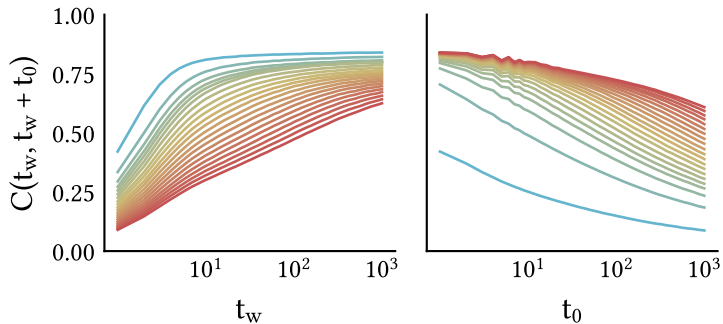
$$E = - \sum_{\langle i,j \rangle} J_{ij} s_i s_j$$

# Magnitudes



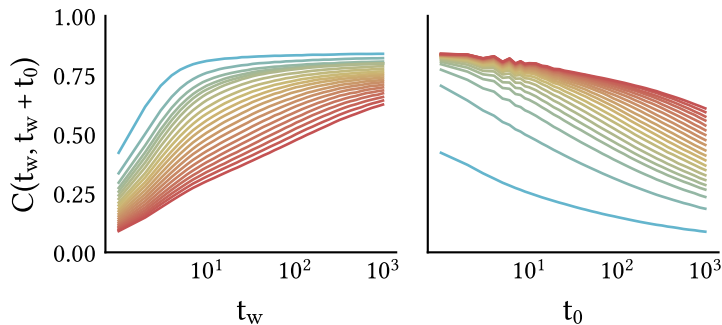
$$q = \frac{1}{V} \sum_i s_i^a s_i^b$$

# Magnitudes



$$C(t_w, t_w + t_0) = \frac{1}{V} \sum_i \langle s_i(t_w) \cdot s_i(t_w + t_0) \rangle$$

# Magnitudes

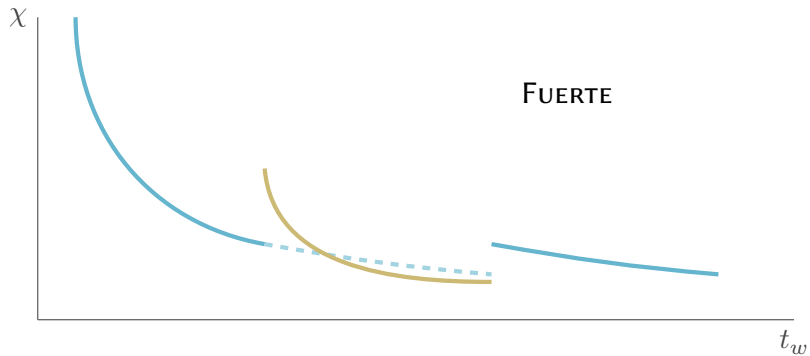


$$C(t_w, t_w + t_0) \rightarrow \boxed{\chi = \beta(1 - C)}$$

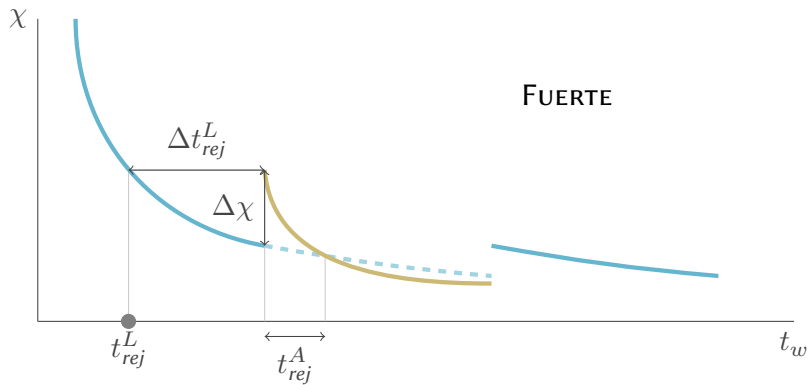
# Rejuvenecimiento



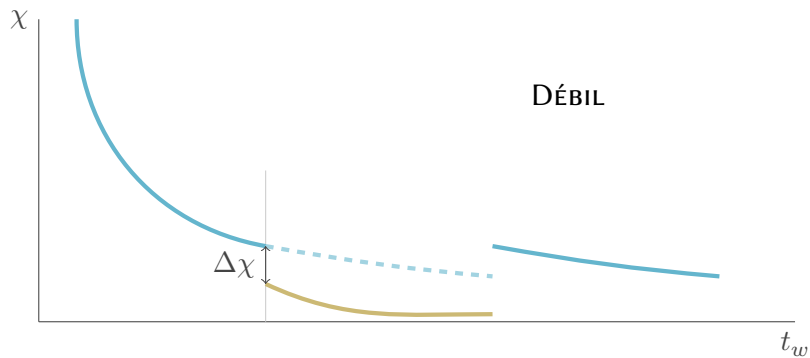
# Rejuvenecimiento



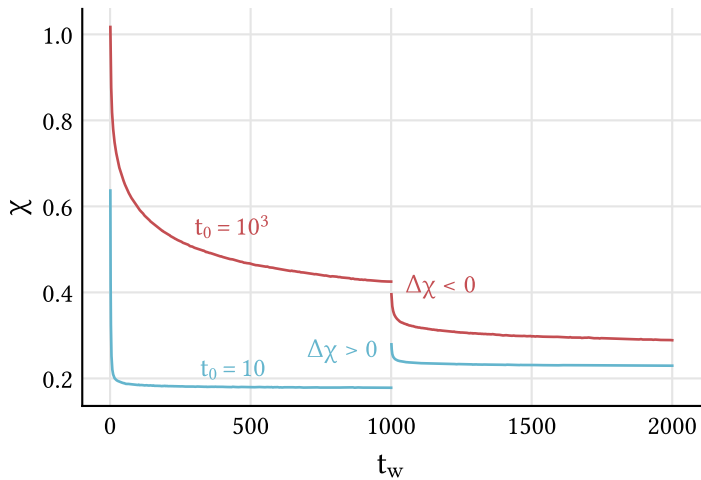
# Rejuvenecimiento



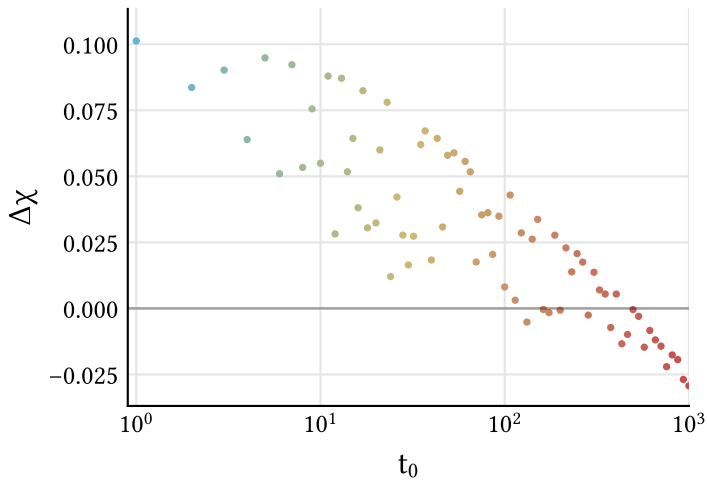
# Rejuvenecimiento



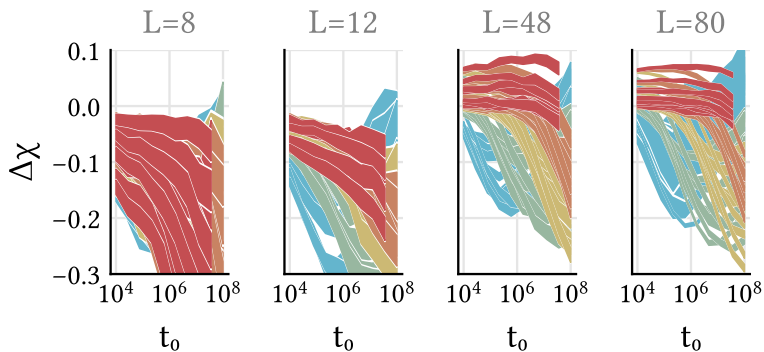
# Rejuvenecimiento



# Rejuvenecimiento

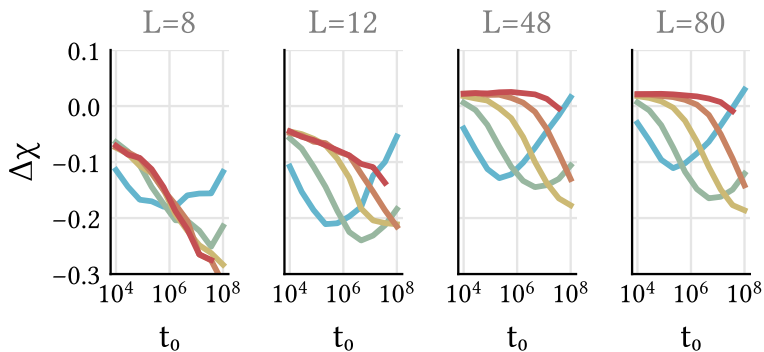


# Rejuvenecimiento



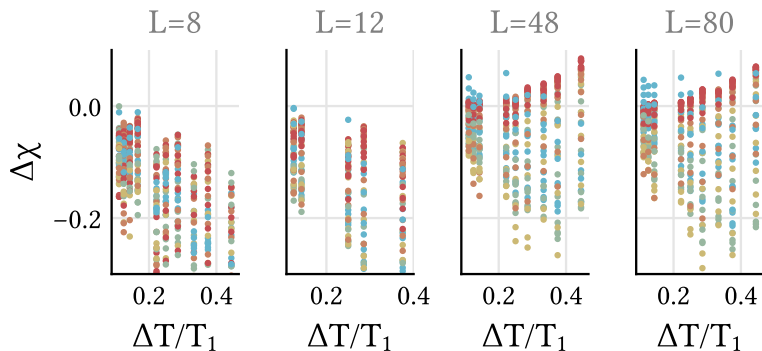
$t_w^1$ :  $10^4$  (●),  $10^5$  (●),  $10^6$  (●),  $10^7$  (●),  $10^8$  (●)

# Rejuvenecimiento



$t_w^1$ :  $10^4$  (●),  $10^5$  (●),  $10^6$  (●),  $10^7$  (●),  $10^8$  (●)

# Rejuvenecimiento

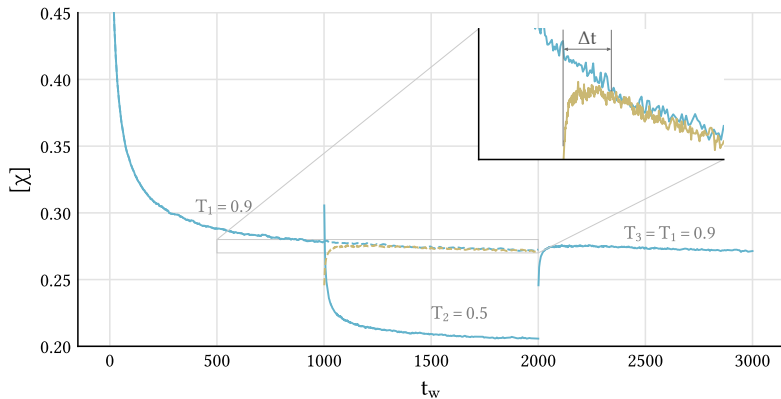


$t_w^1$ :  $10^4$  (●),  $10^5$  (●),  $10^6$  (●),  $10^7$  (●),  $10^8$  (●)

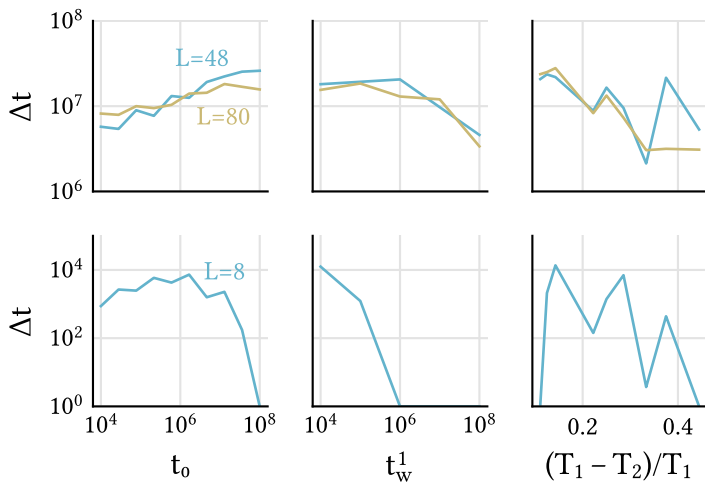


# Memoria

# Memoria



# Memoria



# Conclusiones

- ▶ Dificultad computacional
- ▶ Problemas técnicos, planificación
- ▶ Rejuvenecimiento débil
- ▶ Memoria robusta

*Agradecimientos a BIFI y Janus Collaboration*

