

## M-constrained Bound expression

A Bound is  $m$ -constrained, for a non-neg. integer  $m$ ,

iff all the coefficients are at most  $m+1$ .

A Bound labelled region  $B = (R, L, l, U, u)$  is  $m$ -constrained,

- 1)  $L$  and  $U$  are  $m$ -constrained.
- 2) If some  $a_i = m+1$  in  $L$ , then  $l=0$
- 3) If some  $b_i = m+1$  in  $U$ , then  $u=0$ .

unique  $m$ -constrained bound label region  $\gamma(B)$ .

$$\gamma(B) \cong B.$$

Every  $\cong_m$  equivalence class has exactly one  $m$ -constrained Bound label region.

The no. of  $m$ -constrained expression over  $n$  clocks

$$= (m+2)^{n+1}.$$

for a region  $R$ , the no. of  $m$ -constrained bound labeled regions of the form  $(R, L, l, U, u)$  is

$$4. (m+2)^{2(n+1)} \begin{matrix} \xrightarrow{\text{for } L \text{ and } U} \\ \uparrow \text{ for } l \text{ and } u. \end{matrix}$$