• We say that a sequence of blocks, chain =  $(b_0, \ldots, b_\ell)$ , is valid where  $b_i$  =  $((h_{-1}^i; h'^i; \eta^i, \mathsf{digest}^i; \mathsf{m}^{\bar{i}}; h^i), F^i)$  iff  $-b_0 = genesis$  where  $genesis := ((0;0;0;0;\bot;\mathsf{H}(0;0;0;0,\bot)),\emptyset)$  is the "genesis" block; - for all  $i \in [\ell], h_{-1}^i = h^{i-1}$ . - for all  $i \in [\ell]$ , all  $f \in F^i$ , there exists some  $j \geq i - R\kappa$  such that the pointer of f is  $h^j$ .