

causale-order-preserving^{11,40}

$a.f(a)$ is $c\leq$ preserving on $e.P(e) \equiv_{\text{def}} \forall e, e':\{e:\mathbb{E} \mid P(e)\} . e c\leq e' \Rightarrow f(e) c\leq f(e')$

clarification:

$\text{causale-order-preserving}(es;a.f(a);e.P(e))$
 $\equiv_{\text{def}} \forall e:\{e:\text{es-}\mathbb{E}(es) \mid P(e)\} , e':\{e:\text{es-}\mathbb{E}(es) \mid P(e)\} .$
 $\text{es-causle}(es;e;e') \Rightarrow \text{es-causle}(es;f(e);f(e'))$