

## sends-p-es-sends-iff<sup>0,22</sup>

$\forall ds:x:\text{Id fp} \rightarrow \text{Type}, da:k:\text{Knd fp} \rightarrow \text{Type}, l:\text{IdLnk}, tgs:\text{Id List}, ks:\text{Knd List},$   
 $g:(k:\{k:\text{Knd} \mid (k \in ks)\} \rightarrow (tg:\{tg:\text{Id} \mid (tg \in tgs)\} \rightarrow (\text{State}(ds) \rightarrow \text{Valtype}(da;k) \rightarrow (da(\text{rcv}(l,tg))?\text{Void List}))) \text{List}).$

no\_repeats(Id;tgs)  
 $\Rightarrow (\forall tg \in tgs. \text{rcv}(l,tg) \in \text{dom}(da))$   
 $\Rightarrow (\forall es:\text{ES}.$   
     $(\forall k \in ks. \text{sends } k(v:da(k)?\text{Void}) \text{ on } l:\text{tagged}(g(k),\text{State}(ds),v):\text{dt}(l;da))$   
    &  $(\forall tg \in tgs. \text{only events in } ks \text{ send on } l \text{ with } tg)$   
     $\Rightarrow \text{es-decls}(es;\text{source}(l);ds;da)$   
     $\Rightarrow \text{with decls } ds$   
         $da$   
    sends on  $l$  from  $e$   
    include if  $\text{deq-member}(\text{KindDeq};\text{kind}(e);ks) \rightarrow$   
         $\text{tagged-list-messages}((\text{state when } e);\text{val}(e);g(\text{kind}(e)))$   
    else nil fi  
    and only these for tags in  $tgs)$