Algorithm 3 Invariant preservation restrictions discovery

1: **function** IPRDISCOVER(T, R)   ▷ T: the set of shadow operations of the target system, R: the restriction set
2:     ICSETDISCOVER(T, $\wp(T)$)   ▷ Compute all I-conflict sets
3:     **for all** $T' \in \wp(T)$ **do**
4:         **if** $T'.isIConflict ==$ true **then**
5:             **if** $|T'| == 1$ **then**
6:                 $R \leftarrow R \cup \{r(T'_0, T'_0)\}$ ▷ Restrict self-conflicting operations
7:             **else if** $\forall u, v \in T', r(u, v) \notin R$ **then** ▷ This set has not been restricted yet.
8:                 $R \leftarrow R \cup \{r(T'_i, T'_j)\}$, where $i \neq j$ and $T'_i, T'_j \in T'$ ▷ Restrict any pair of operations in T'
9:             **end if**
10:         **end if**
11:     **end for**
        return R
12: **end function**