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1: procedure COMMUNICATION_VOID_RESTORATION
2:   if node is void then
3:     Change status
4:      $SN_{vn}$ : Void node,  $\gamma$ : set of neighbour of  $SN_{vn}$ 
5:     Send (void_node_announcement) to  $\gamma$ 
6:      $\{\gamma \text{ set of neighbour of } SN_{vn}.\}$ 
7:      $\{C_D \text{ candidates to the node } SN_{vn}.\}$ 
8:     if  $|\gamma| > 0$  then
9:       for  $SN_u \in \gamma$  do
10:        if  $dist(SN_{vn}, SN_u) \leq r_c$  then
11:           $d_u \leftarrow C_D(SN_u, s_u^*)$ 
12:           $X = x_{vn} - x_{s_{vn}^*}$ 
13:           $Y = y_{vn} - y_{s_{vn}^*}$ 
14:           $Z = z_{vn}^* - z_{s_{vn}^*}$ 
15:           $X^2 + Y^2 + Z^2 \geq d_u^2$ 
16:           $C_D \leftarrow C_D \cup \{z_{vn}^*\}$ 
17:        else
18:           $d \leftarrow \sqrt{(x_{vn} - x_u)^2 + (y_{vn} - y_u)^2}$ 
19:          if  $d \leq r_c$  then
20:             $A = x_{vn} - x_u$ 
21:             $B = y_{vn} - y_u$ 
22:             $C = z_{vn}^* - z_u$ 
23:             $A^2 + B^2 + C^2 \leq r_c^2$ 
24:             $C_D \leftarrow C_D \cup \{z_{vn}^*\}$ 
25:          end if
26:        end if
27:      end for
28:       $z = \arg \min_{z_i \in D\{|z_{vn} - z_i|\}}$ 
29:       $SN_{vn}$  moves to new depth  $z$ 
30:      Communication_Void_Restoration();
31:    end if
32:  end if
33: end procedure

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