Reinforcement Learning-based Inverse Design of Composite Films for Spacecraft Smart Thermal Control

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Table 1 Reinforcement learning active ID and action

Action ID	Action
0	The first layer material ID increases by 1 (max=8)
1	The first layer material ID is reduced by 1 (min=0)
2	The second layer material ID increases by 1 (max=8)
3	The second layer material ID reduced by 1 (min=0)
4	The material thickness of layer 1 is increased by 0.02 (max=2)
5	The material thickness of layer 1 is reduced by 0.02 (min=0.02)
6	The material thickness of layer 2 is increased by 0.02 (max=2)
7	The material thickness of layer 2 is reduced by 0.02 (min=0.02)
8	The material thickness of layer 3 is increased by 0.02 (max=2)
9	The material thickness of layer 3 is reduced by 0.02 (min=0.02)
10	The material thickness of layer 4 is increased by 0.02 (max=2)
11	The material thickness of layer 4 is reduced by 0.02 (min=0.02)
12	The material thickness of layer 5 is increased by 0.02 (max=2)
13	The material thickness of layer 5 is reduced by 0.02 (min=0.02)
14	The material thickness of layer 6 is increased by 0.02 (max=2)
15	The material thickness of layer 6 is reduced by 0.02 (min=0.02)
16	The material thickness of layer 7 is increased by 0.02 (max=2)
17	The material thickness of layer 7 is reduced by 0.02 (min=0.02)