

Non-metal IIIA–VIIA adatom diffusion on metals

System	E_m [meV]	E_d [meV]	D_0 [cm^2/s]	θ	T [K]	Method	Ref.	E_b [eV]	Ref.
C/Pt(111)		1300 ± 200	0.2	–	860 - 970	AES	[1]	–	
Si/W(110)	700 ± 70		$3.1 \times 10^{-4 \pm 1.3}$	atom	250 - 280	FIM	[2, 3]	–	
N/W(110)		900	1.4×10^{-2}	–	800 - 900	AES	[4]	6.6	[4]
N/Fe(001)	920 ± 40		8.9×10^{-4}	atom	299 - 325	STM	[5]	6.1	[6]
N/Ru(0001)	940 ± 150	940 ± 150	$1 \times 10^{-1.7 \pm 1.5}$	atom	300 - 350	STM	[7]	5.7	[8, 9]
O/Mo(110)		740 - 1130	$1 - 10^{-1-10^{-2}}$	0.07 - 0.5	400 - 600	FEM	[10]	–	
O/W(110)		1170 ± 90	0.38 - 0.2	0.4 - 0.9	1033 - 1153	CPD	[11]	~ 5.4	[12]
		610	$2 \times 10^{-7} - 1 \times 10^{-4}$	0.15-0.3	500 - 770	FEM	[13]		
		950	1×10^{-4}	0.56	500 - 770	FEM	[13]		
		1040	0.2 / 0.4	0.25 / 0.5	930 - 1320	SEE	[14]		
		1050	4.5×10^{-4}	0.6	600 - 720	FEM ^a	[15]		
O/Pt(111)		~ 1200	~ 2.5	–	400 - 450	FEM ^b	[16]	3.7	[17, 18]
	430 ± 40		$5 \times 10^{-7 \pm 1}$	atom	190 - 205	STM	[19]		
O/Pt(100)		~ 1500	~ 1	–	580 - 640	FEM ^b	[16]	–	
O/Pt(110)		1300 ± 170	$2 \times 10^{3 \pm 1}$	0 - 0.2	600 - 670	PEEM ^c	[20]	–	
O/Ru(0001)	700		$\{2 \times 10^{-3}\}$	atom	300	STM	[21, 22]	4.4–5.6	[23-25]
O/Al(111)	1000		$\{5 \times 10^{-3}\}$	< 0.1	440	STM	[26]	7.6	[27]
S/Re(0001)		790 ± 10	$\{2 \times 10^{-2}\}$	~ 0.25	300	STM	[28]	4.3	[29]
S/Ni(111)	290 - 300		$\{2.2 \times 10^{-4}\}$	atom	105 - 115	FIM	[30]	2.6	[31]
S/Pt(111)	570 ± 50		4×10^{-5}	atom	185 - 200	STM	[32]	–	
S/Cu(111)	250		$\{1 \times 10^{-4}\}$	< 0.16	820	QHAS	[33]	–	

^a along [001]

^b shadowing technique

^c (1x1) to (1x2)- areas, along [1-10]

θ is given in number of adatoms per substrate atom; estimates from original authors in {}.

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