Table 1. Summary of all model parameters

	S_1 parameters							
RF size (pix.)	7 ; 9	11 ; 13	15 ; 17	19 ; 21	23 ; 25	27 ; 29	31 ; 33	35 ; 37 ; 39
σ	2.8 ; 3.6	4.5 ; 5.4	6.3 ; 7.3	8.2 ; 9.2	10.2 ; 11.3	12.3 ; 13.4	14.6 ; 15.8	17.0 ; 18.2 ; 19.5
λ	3.5 ; 4.6	5.6 ; 6.8	7.9 ; 9.1	10.3 ; 11.5	12.7 ; 14.1	15.4 ; 16.8	18.2 ; 19.7	21.2 ; 22.8 ; 24.4
θ	$0^0; 45^0; 90^0; 180^0$							
No. S_1 types	$K_{S_1} = 4$							
	C_1 parameters							
Bands ΔS_{C_1}	1	2	3	4	5	6	7	8
Grid size $\Delta N^S_{C_1}$	8	10	12	14	16	18	20	22
Sampling ϵ_{C_1}	3	5	7	8	10	12	13	15
No. C_1 types	$K_{C_1} = K_{S_1} = 4$							
	S_2 parameters							
Grid size ΔN_{S_2}	3×3 ($\times 4$ orientations)							
No inp. n_{S_2}	10							
No. S_2 types	$K_{S_2} \approx 2000$							
	C_2 parameters							
Bands ΔS_{C_2}	1 ; 2		3 ; 4		5 ; 6		7 ; 8	
Grid size $\Delta N^S_{C_2}$	8		12		16		20	
Sampling ϵ_{C_2}	3		7		10		13	
No. C_2 types	$K_{C_2} = K_{S_2} \approx 2000$							
	S_3 parameters							
Grid size ΔN_{S_3}	3×3 ($\times K_{S_2}$)							
No. inp. n_{S_3}	100							
No. S_3 types	$K_{S_3} \approx 2000$							
	C_3 parameters							
Bands ΔS_{C_3}	1 ; 2 ; 3 ; 4 ; 5 ; 6 ; 7 ; 8							
Grid size $\Delta N^S_{C_3}$	40							
No. C_3 types	$K_{C_3} = K_{S_3} \approx 2000$							
	S_{2b} parameters							
Grid size $\Delta N_{S_{2b}}$	$6 \times 6; 9 \times 9; 12 \times 12; 15 \times 15$ ($\times 4$ orientations)							
No. inp. $n_{S_{2b}}$	100							
No. S_{2b} types	$K_{S_{2b}} \approx 500$ for each size ≈ 2000 total							
	C_{2b} parameters							
Bands $\Delta S_{C_{2b}}$	1 ; 2 ; 3 ; 4 ; 5 ; 6 ; 7 ; 8							
Grid size $\Delta N^S_{C_{2b}}$	40							
No. C_{2b} types	$K_{C_{2b}} = K_{S_{2b}} \approx 500$ for each size≈ 2000 total							

See supporting information text for details.