

Statistical Anti-reflection Structures (Random Moth-Eye Structures)

Abstract



In this demo we will model the motheye structure by a random (statistical) distribution of cones. For this purpose, the *Random Cone Interface* is used.

Task: Modeling of Statistical Moth-Eye Structures



Random Cone Interface

The moth-eye structure is modeled by a random (statistical) distribution of cones.

For this purpose, the *Random Cone Interface* is used.

The characteristics of the surface are determined by the following parameters:

- number of cones (in the chosen definition area)
- height of cones (cones have constant height
- diameter of the cones at basis
- Variance of cone diameter
- size of Definition Area / Size for Random Disttribution
- period of interface

	Height Discontinuit	ies Scaling of Elen	nentary Interface	Periodizatio	n	
Interface	e Specification					
Algorith	hms					
Snipp	pet for Height Profile	•	🥒 E	Edit	Validity: 🕑	1
		Calaviatian	A	F		1
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Param	eters					
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						200
Numb	erCones					300 👻
SizeF	orRandomDistributi	on		2 µm		2 µm
Conel	Height					500 nm
ConeE	BaseDiameter					200 nm
						100
ConeE	BaseDiameterVaria	ice				100 nm
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Inner De Size ar Shap Size Effect © F Pos Spa z-F	efinition Area ind Shape we in the second se	Rectangular 2 µm Definition Area Interface Interface Plane Interface Plane	O Elliptic x	2 µm	2-Position	Def. Area

Result: Dependency on Number of Cones



Result: Dependency on Height of Cones



Result: Dependency on Base-Diameter of Cones



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