Details of XRR/Parratt_New

Function Category: XRR

Function: Parratt_New

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Description

Calculates X-ray reflectivity from a system of multiple layers using Parratt formalism. Here are the description about all the parameters:

Fixed Parameters

Parameters	Units	Description	Default values
x	$Å^{-1}$	Array of wave-vector transfer along z-direction i.e Q_z	
E	keV	Energy of the X-rays in keV (optional)	10.0
Minstep	Å	The thickness of each of the layers in	0.5
rrf		'True' for Fresnel normalized reflectivity (R/Rf) and 'False' for just reflectivity	'True'
qoff	Å	Q_z offset to correct the Q_z=0 of the instrument (zero angle correction)	0.0
yscale		A scale factor for R or R/Rf	1.0
Bkg		In-coherrent background	0.0

Single Fitting Parameters

Parameters	Units	Description	Default values
qoff	Å	Q_z offset to correct the Q_z=0 of the instrument (zero angle correction)	0.0
yscale		A scale factor for R or R/Rf	1.0
Bkg		In-coherrent background	0.0

Multiple Fitting Parameters

Parameters	Units	Description	Default values
Layers		Layer description	['top', 'bottom']
d	Å	Thicknesses of each of the layers	[0.0,1.0]

rho	el/Å^3	Electron density of each of the layers	[0.0,0.33]
beta		Absorption coefficient of each of the layers	[0.0,0.0]
Sig	Å	Roughness of interfaces between the layers	[0.0,3.0]