Details of ASAXS/Cylinder\_Uniform

Documentation  
 Calculates the Energy dependent form factor of multilayered cylinders with different materials  
  
 x : Reciprocal wave-vector 'Q' inv-Angs in the form of a scalar or an array  
 relement : Resonant element of the nanoparticle. Default: 'Au'  
 Energy : Energy of X-rays in keV at which the form-factor is calculated. Default: None  
 Np : No. of points with which the size distribution will be computed. Default: 10  
 H : Length of the cylinders in Angs  
 HvvgtR : True for H>>R else False  
 NrDep : Energy dependence of the non-resonant element. Default= 'False' (Energy independent), 'True' (Energy independent)  
 dist : The probability distribution function for the radii of different interfaces in the nanoparticles. Default: Gaussian  
 Rdist : Width of distribution or radius and shells of the cylinder  
 Nalf : Number of azimuthal angle points for angular averaging  
 norm : The density of the nanoparticles in nanoMolar (nanoMoles/Liter)  
 norm\_err : Percentage of error on normalization to simulated energy dependent SAXS data  
 sbkg : Constant incoherent background for SAXS-term  
 cbkg : Constant incoherent background for cross-term  
 abkg : Constant incoherent background for Resonant-term  
 error\_factor: Error-factor to simulate the error-bars  
 D : Hard Sphere Diameter  
 phi : Volume fraction of particles  
 U : The sticky-sphere interaction energy  
 SF : Type of structure factor. Default: 'None'  
 term : 'SAXS-term' or 'Cross-term' or 'Resonant-term'  
 mpar : Multi-parameter which defines the following including the solvent/bulk medium which is the last one. Default: 'H2O'  
 Material ('Materials' using chemical formula),  
 Density ('Density' in gm/cubic-cms),  
 Density of solvent ('Sol\_Density' in gm/cubic-cms) of the particular layer  
 Mole-fraction ('Rmoles') of resonant element in the material)  
 Radii ('R' in Angs)