

# Mossbauer radioactive source

## Mossbauer transmission\_vA

device:absorber/scatterer

source-absorber distance=large  
cos smearing & aperture effect  
extended source  
missalignment: point source-absorber-detector (sad)

scalar refraction index (static,sad)

*singlet: width, position and intensity*  
*doublet: width, position and intensity*  
*sextet : width, position and intensity*

*Hi,DEQ,powder average <rik(j)>*  
*Hi,DEQ, width(1-8)*  
*Hi,DEQ, intensity(1-8),width(1-8)*  
*Hi-calibration 57Fe*

2x2 refraction index (static,sad)

*H(S\_E),DEQ, equivalent sites*  
*H(S\_C),DEQ, equivalent sites*

scalar refraction index (dynamic,sad)

*Kramers doublet (nuclear 3/2->1/2 tr)*  
*crystal field-Kramers doublet (nuclear 3/2->1/2 tr)*  
*crystal field S=5/2 sextet (nuclear 3/2->1/2 tr)*

*two state +H/-H perturbation*  
*two state +H/-H perturbation-B/T*

2x2 single polarized line (sad)

*single polarized line*

## Mossbauer transmission\_vB

device:absorber/scatterer

source-absorber distance=large  
cos smearing & aperture effect  
extended source  
missalignment: point source-absorber-detector (sad)

nocall (angle(sample)=0)

sample orient.(rot-axis)  
sample orient.(rot-axis & thickness)  
sample orient.(x,z-axis)  
sample orient.(x,z-axis & thickness)

scalar refraction index (static,sad)

*singlet: width, position and intensity*  
*doublet: width, position and intensity*  
*sextet : width, position and intensity*

*Hi,DEQ,powder average <rik(j)>*  
*Hi,DEQ, width(1-8)*  
*Hi,DEQ, intensity(1-8),width(1-8)*

### 2x2 refraction index (static,sad)

*H(S\_E),DEQ, equivalent sites*

*H(S\_C),DEQ, equivalent sites*

### 2x2 refraction index (static,f\_anisotrop,sad)

*H(S\_E),DEQ,f(S\_C), equiv. sites*

*H(S\_C),DEQ,f(S\_C), equiv. sites*

### 2x2 refraction index (Lwidth,f\_anisotrop,sad)

*H(S\_E),DEQ,f(S\_C), equiv. sites*

*H(S\_C),DEQ,f(S\_C), equiv. sites*

### scalar refraction index (dynamic,sad)

*Kramers doublet (nuclear 3/2->1/2 tr)*

*crystal field-Kramers doublet (nuclear 3/2->1/2 tr)*

*crystal field S=5/2 sextet (nuclear 3/2->1/2 tr)*

*two state +H/-H perturbation*

*two state +H/-H perturbation-B/T*

### 2x2 single polarized line (sad)

*single polarized line*

## Mossbauer transmission\_vC

device:absorber/scatterer

source-absorber distance=large

cos smearing & aperture effect

extended source

missalignment: point source-absorber-detector (sad)

nocall (angle(sample)=0)

sample orient.(rot-axis)

sample orient.(rot-axis & thickness)

sample orient.(x,z-axis)

sample orient.(x,z-axis & thickness)

### scalar refraction index (static,sad)

*singlet: width, position and intensity*

*doublet: width, position and intensity*

*sextet : width, position and intensity*

*H<sub>i</sub>,DEQ,powder average <rik(j)>*

*H<sub>i</sub>,DEQ, width(1-8)*

*H<sub>i</sub>,DEQ, intensity(1-8),width(1-8)*

*Hi-calibration 57Fe*

### 2x2 refraction index (static,sad)

*H(S\_E),DEQ, equivalent sites*

*H(S\_C),DEQ, equivalent sites*

## 2x2 refraction index (static,f\_anisotrop,sad)

*H(S\_E),DEQ,f(S\_C), equiv. sites*

*H(S\_C),DEQ,f(S\_C), equiv. sites*

## 2x2 refraction index (Lwidth,f\_anisotrop,sad)

*H(S\_E),DEQ,f(S\_C), equiv. sites*

*H(S\_C),DEQ,f(S\_C), equiv. sites*

## scalar refraction index (dynamic,sad)

*Kramers doublet (nuclear 3/2->1/2 tr)*

*crystal field-Kramers doublet (nuclear 3/2->1/2 tr)*

*crystal field S=5/2 sextet (nuclear 3/2->1/2 tr)*

*two state +H/-H perturbation*

*two state +H/-H perturbation-B/T*

## Mossbauer transmission\_vD

device:absorber/scatterer

source-absorber distance=large

cos smearing & aperture effect

extended source

missalignment: point source-absorber-detector (sad)

nocall (angle(sample)=0)

sample orient.(rot-axis)

sample orient.(rot-axis & thickness)

sample orient.(x,z-axis)

sample orient.(x,z-axis & thickness)

## scalar refraction index (static,sad)

*singlet: width, position and intensity*

*doublet: width, position and intensity*

*sextet : width, position and intensity*

*Hi,DEQ,powder average <rik(j)>*

*Hi,DEQ, width(1-8)*

*Hi,DEQ, intensity(1-8),width(1-8)*

*Hi-calibration 57Fe*

## 2x2 refraction index (static,sad)

*H(S\_E),DEQ, equivalent sites*

*H(S\_C),DEQ, equivalent sites*

## 2x2 refraction index (f,t,spinham,sad)

*DEQ spin Hamiltonian*

*DEQ-tensor,H-field values*

*spin Hamiltonian S=1/2*

*T2g(S=1/2) spin Hamiltonian*

*DEQ spin Hamiltonian, 2 hyp\_fields*

*Kramers doublet slow relaxation*

*T2g(S=1/2) spin-Ham slow relaxation*

2x2 ref\_index 2 state relaxation(f,sad)  
*H(S\_E),DEQ,f(S\_C), 2 state relaxation*  
*H(S\_E),DEQ, 2 state relaxation (powder)*

### Mossbauer reemission\_vA

device:absorber/scatterer

source-absorber distance=large  
cos smearing & aperture effect  
extended source  
missalignment: point source-absorber-detector (sad)

scalar refraction index (static,sad)  
*singlet: width, position and intensity*  
*doublet: width, position and intensity*  
*sextet : width, position and intensity*

*Hi,DEQ,powder average <rik(j)>*  
*Hi,DEQ, width(1-8)*  
*Hi,DEQ, intensity(1-8),width(1-8)*  
*Hi-calibration 57Fe*

2x2 refraction index (static,sad)  
*H(S\_E),DEQ, equivalent sites*  
*H(S\_C),DEQ, equivalent sites*

scalar refraction index (dynamic,sad)  
*Kramers doublet (nuclear 3/2->1/2 tr)*  
*crystal field-Kramers doublet (nuclear 3/2->1/2 tr)*  
*crystal field S=5/2 sextet (nuclear 3/2->1/2 tr)*

*two state +H/-H perturbation*  
*two state +H/-H perturbation-B/T*

2x2 single polarized line (sad)  
*single polarized line*

### Mossbauer reemission\_vB

device:absorber/scatterer

source-absorber distance=large  
cos smearing & aperture effect  
extended source  
missalignment: point source-absorber-detector (sad)

scalar refraction index (static,sad)  
*singlet: width, position and intensity*  
*doublet: width, position and intensity*  
*sextet : width, position and intensity*

*Hi,DEQ,powder average <rik(j)>*  
*Hi,DEQ, width(1-8)*  
*Hi,DEQ, intensity(1-8),width(1-8)*  
*Hi-calibration 57Fe*

2x2 refraction index (static,sad)

*H(S\_E),DEQ, equivalent sites*

*H(S\_C),DEQ, equivalent sites*

2x2 refraction index (static,f\_anisotrop,sad)

*H(S\_E),DEQ,f(S\_C), equiv. sites*

*H(S\_C),DEQ,f(S\_C), equiv. sites*

2x2 refraction index (Lwidth,f\_anisotrop,sad)

*H(S\_E),DEQ,f(S\_C), equiv. sites*

*H(S\_C),DEQ,f(S\_C), equiv. sites*

scalar refraction index (dynamic,sad)

*Kramers doublet (nuclear 3/2->1/2 tr)*

*crystal field-Kramers doublet (nuclear 3/2->1/2 tr)*

*crystal field S=5/2 sextet (nuclear 3/2->1/2 tr)*

*two state +H/-H perturbation*

*two state +H/-H perturbation-B/T*

2x2 single polarized line (sad)

*single polarized line*

## Mossbauer transmission\_vS

device:absorber/scatterer

source-absorber distance=large

cos smearing & aperture effect

extended source

misalignment: point source-absorber-detector (sad)

nocall (angle(sample)=0)

sample orient.(rot-axis)

sample orient.(rot-axis & thickness)

sample orient.(x,z-axis)

sample orient.(x,z-axis & thickness)

scalar refraction index (static,sad)

*singlet: width, position and intensity*

*doublet: width, position and intensity*

*sextet : width, position and intensity*

*H<sub>i</sub>,DEQ,powder average <rik(j)>*

*H<sub>i</sub>,DEQ, width(1-8)*

*H<sub>i</sub>,DEQ, intensity(1-8),width(1-8)*

*Hi-calibration 57Fe*

2x2 refraction index (static,sad)

*H(S\_E),DEQ, equivalent sites*

*H(S\_C),DEQ, equivalent sites*

2x2 refraction index (static,f\_anisotrop,sad)

$H(S_E), DEQ, f(S_C)$ , equiv. sites

$H(S_C), DEQ, f(S_C)$ , equiv. sites

2x2 refraction index (Lwidth,f\_anisotrop,sad)

$H(S_E), DEQ, f(S_C)$ , equiv. sites

$H(S_C), DEQ, f(S_C)$ , equiv. sites