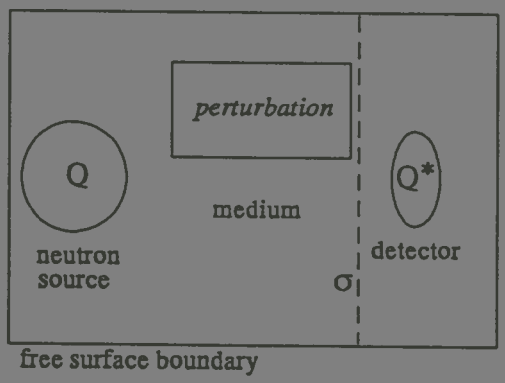


perturbation:
Σ_t , Σ_s

medium:
$\tilde{\Sigma}_t$, $\tilde{\Sigma}_s$

and the multigroup contributon cross sections are defined formally by:

$$\theta_{sg} = \sum_{g'=g}^{G} \int_{\hat{\Omega}'} \theta_{g \to g'}(\hat{\Omega} \to \hat{\Omega}')\, d\hat{\Omega}' \tag{1.31}$$

$$\theta_{g \to g'}(\hat{\Omega} \to \hat{\Omega}') = \Sigma_g$$

$$\tilde{\theta}'_{sg} = \sum_{g'=g}^{G} \int_{\hat{\Omega}'} \Sigma_{g\to g'}(\mu$$

$$\bar{\Re} = -\sum_{g=1}^{G} \int_{\sigma} d\sigma \int_{\hat{\Omega}} \mathbf{n}\bullet\hat{\Omega}\, C_g\, d\hat{\Omega} \qquad (1.38)$$

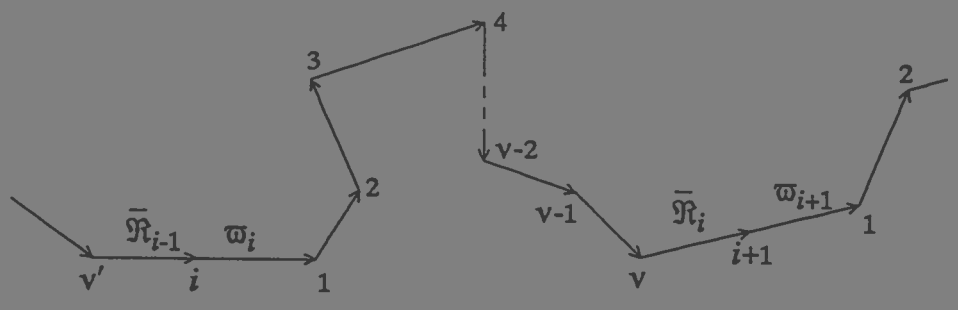

4
3
2
ν-2
ν-1
$\bar{\mathfrak{R}}_{i-1}$
ϖ_i
$\bar{\mathfrak{R}}_i$
ϖ_{i+1}
ν'
i
1
ν
i+1
1
2
one genration of ν nonregenarative
collisions all with η < 1

Figure 2.4. Segmentation of the trajectory of a response particle near the saturation cell in the R-Z plane. Point P is the new collision site where the optical track length β saturates by the sum of all segments ΔS mfp equivalent.

(b) *The* μ*-pdf*

given the ener

the particles

particles emitt

$$E(\varphi:g,\mu) = \frac{\tilde{\Sigma}_{g'\to g}(\mu_o)\,\tilde{\psi}^*_g(\mu,\varphi)}{\int_{\varphi}\tilde{\Sigma}_{g'\to g}(\mu_o)\,\tilde{\psi}^*_g(\mu,\varphi)\,d\varphi} \qquad (2.28)$$

1.4

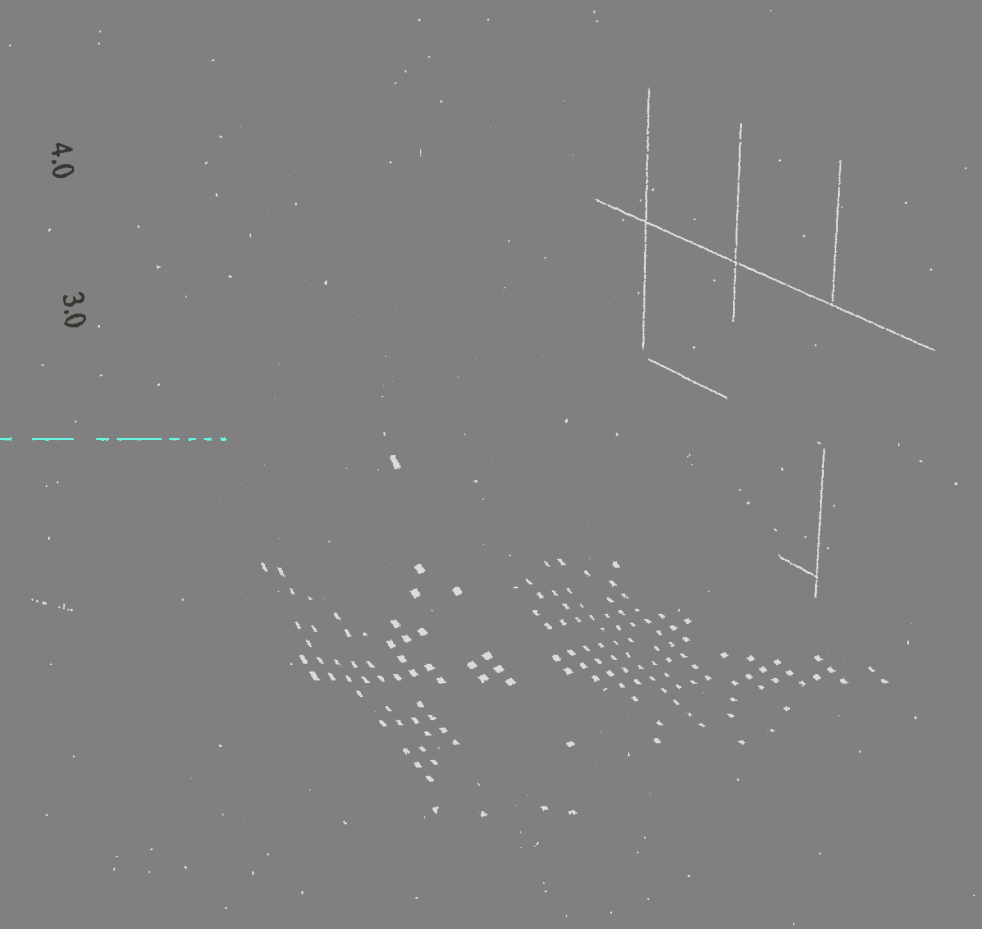


Figure 5.3. A surface plot for the emission ratio of steel perturbation in concrete shield and a neutron source, for scattering from group 7 to group 8 at cell index (40,53). Angular cosine μ and azimuthal angle φ (in radians) are incident parameters.

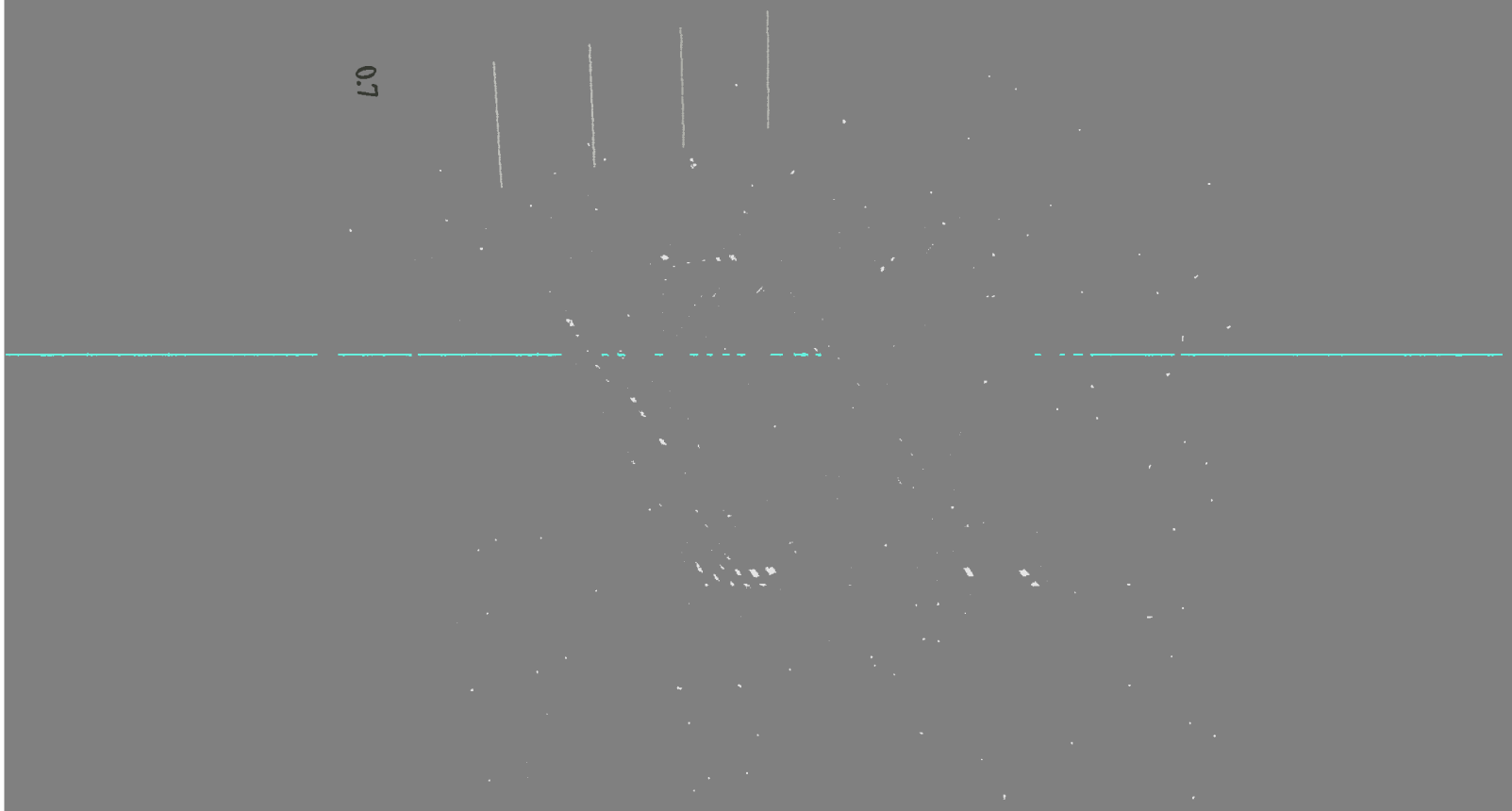
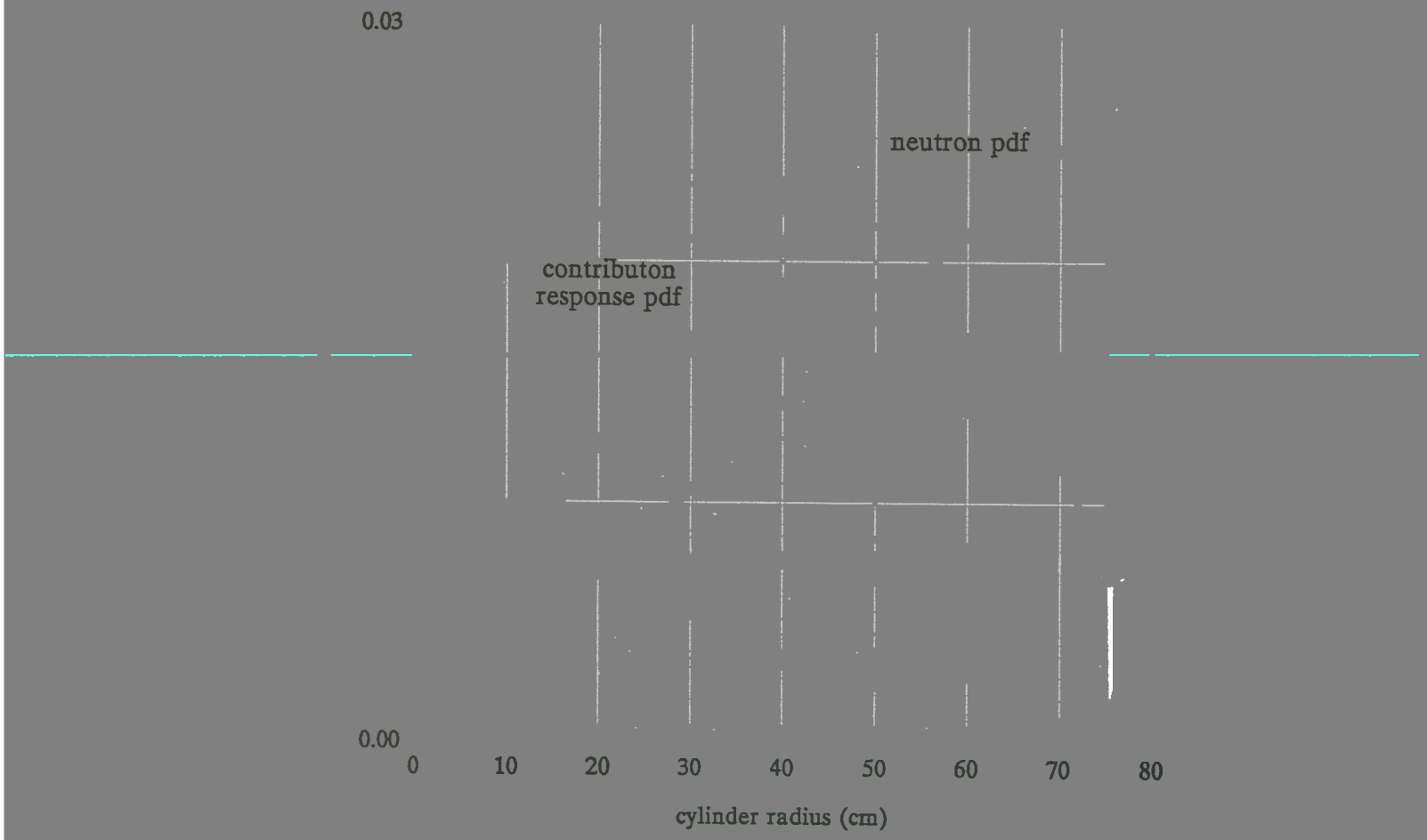
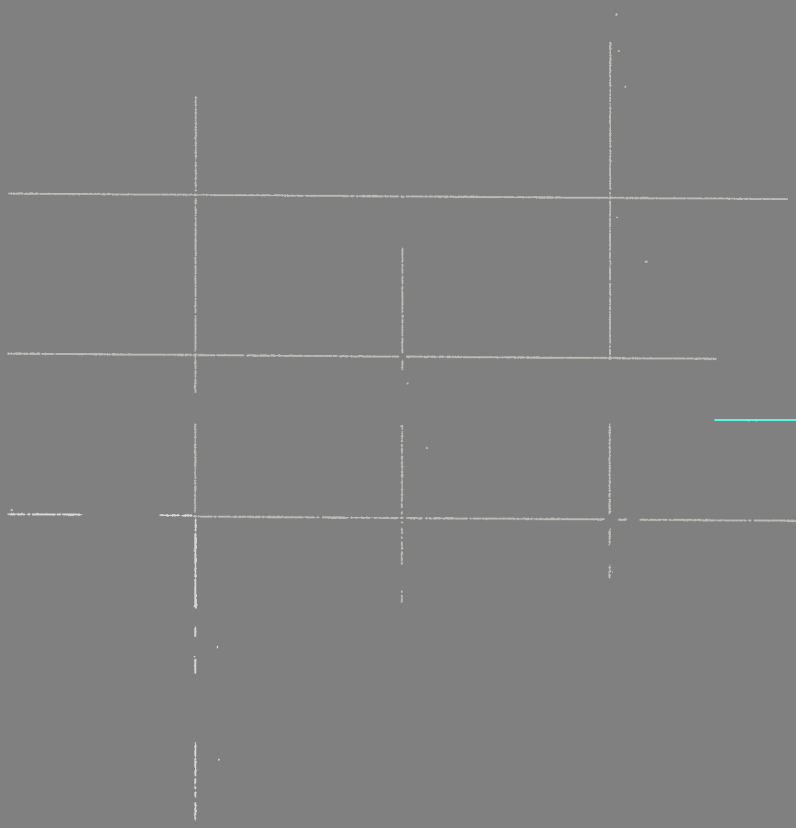
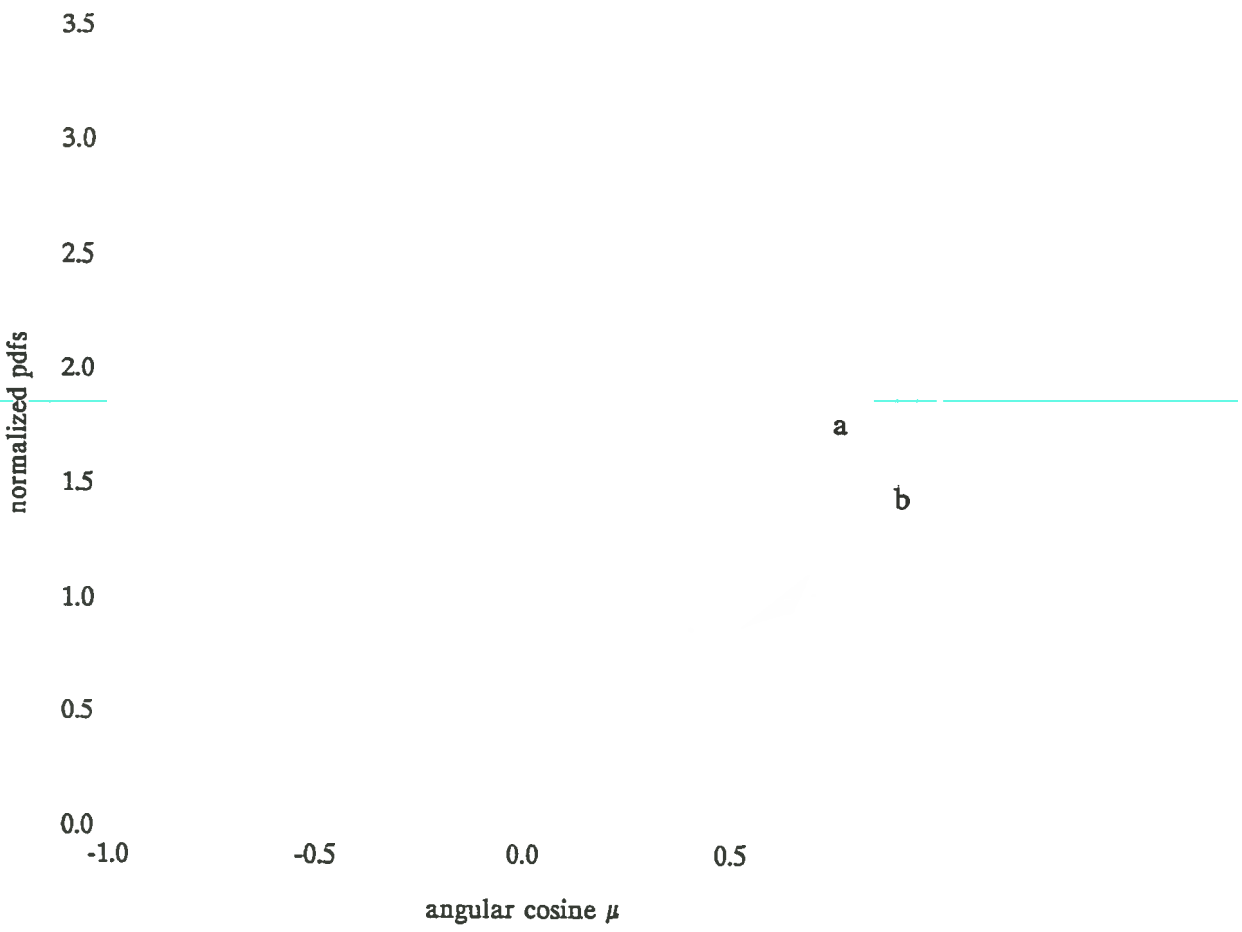


Figure 5.4. A surface plot for the emission ratio of water perturbation in concrete shield and a neutron source, for scattering in group 1 at cell index (40,53). Angular cosine μ and azimuthal angle φ (in radians) are incident parameters.


0.8


0.03
neutron pdf
contributon
response pdf
0.00
0
10
20
30
40
50
60
70
80
cylinder radius (cm)




3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
normalized pdfs
-1.0
-0.5
0.0
0.5
angular cosine μ
a
b