

Separable Subsurface Scattering

Supplementary Materials 2

This is a supplemental document the paper *Separable Subsurface Scattering*. It includes the plots for the approximation kernels, compared against the ground truth diffusion profile.

Contents

H Skin1	1
H.1 Rank-1	1
H.2 SVD	5
H.3 d'Eon	9
I Marble	13
I.1 Rank-1	13
I.2 SVD	17
I.3 d'Eon	21
J Wholemilk	24
J.1 Rank-1	24
J.2 SVD	28
J.3 d'Eon	32
K Ketchup	35
K.1 Rank-1	35
K.2 SVD	39
K.3 d'Eon	43
L Apple	46
L.1 Rank-1	46
L.2 SVD	50
L.3 d'Eon	54
M Chicken1	57
M.1 Rank-1	57
M.2 SVD	61
M.3 d'Eon	65
N Chicken2	68
N.1 Rank-1	68
N.2 SVD	72
N.3 d'Eon	76
O Cream	79
O.1 Rank-1	79
O.2 SVD	83
O.3 d'Eon	87
P Potato	90
P.1 Rank-1	90
P.2 SVD	94
P.3 d'Eon	98

Q Skimmilk	101
Q.1 Rank-1	101
Q.2 SVD	105
Q.3 d'Eon	109
R Skin2	112
R.1 Rank-1	112
R.2 SVD	116
R.3 d'Eon	120

H Skin1

H.1 Rank-1

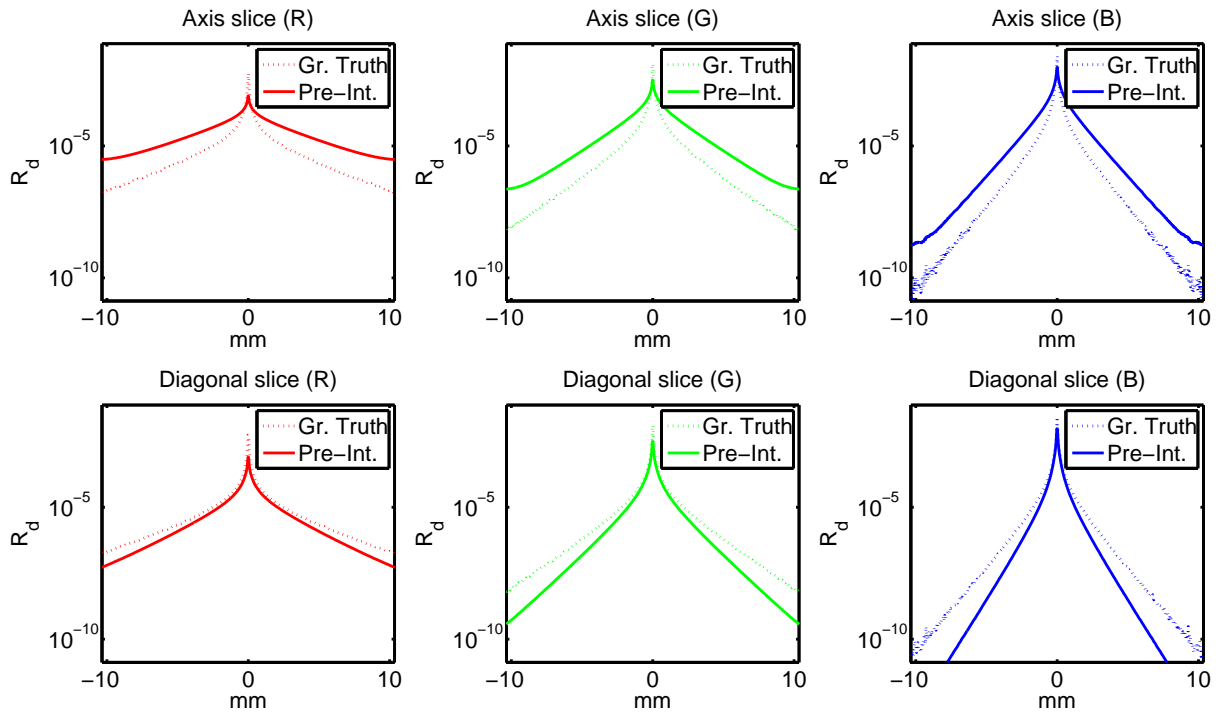


Figure S2.1: Skin1 - Kernel pre-integration

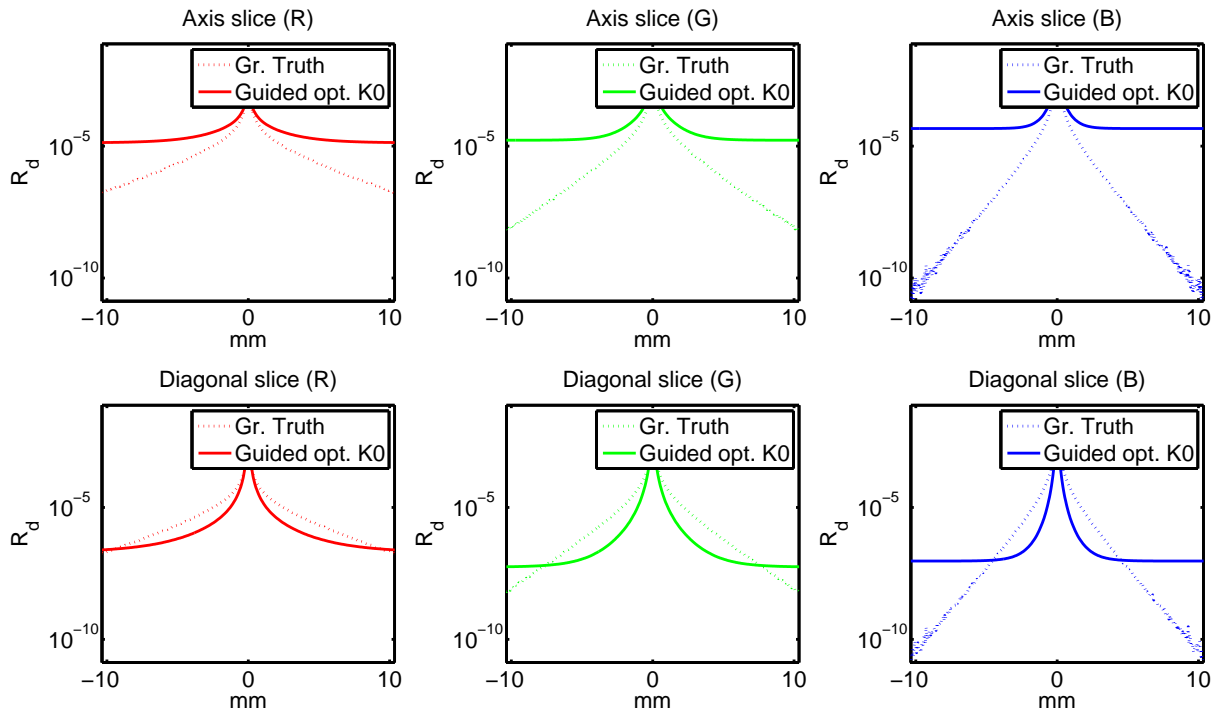


Figure S2.2: Skin1 - Guided optimization, k=0

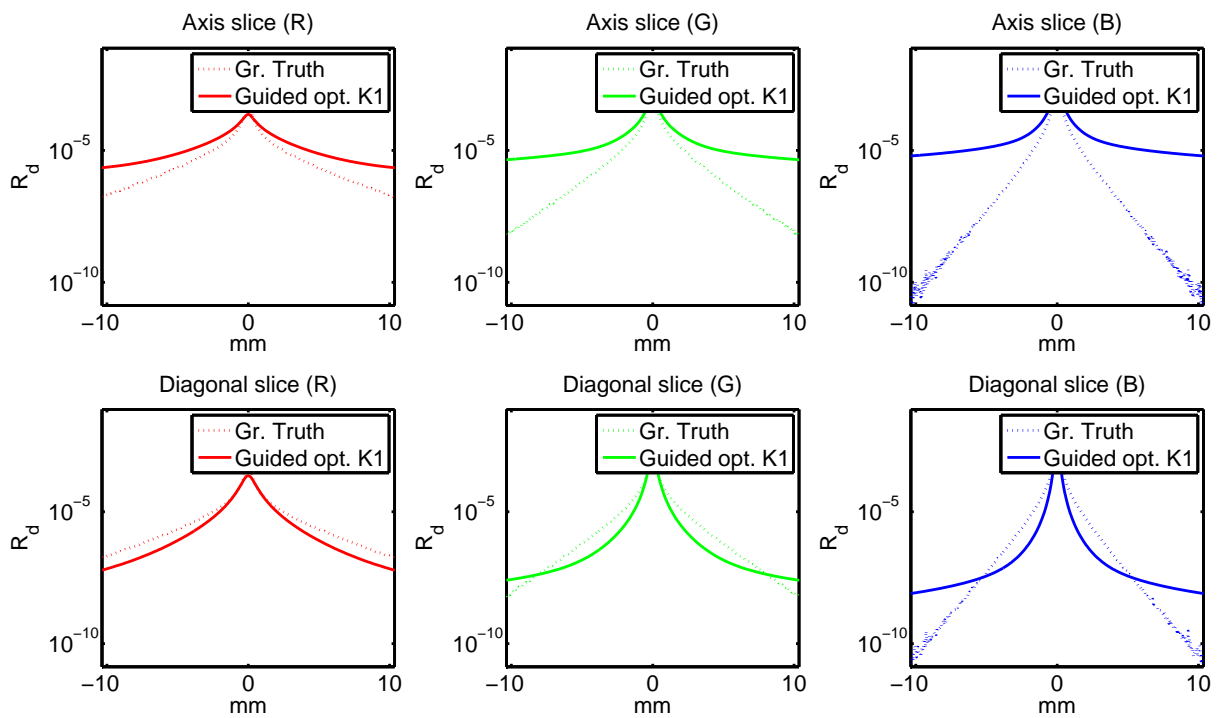


Figure S2.3: Skin1 - Guided optimization, k=1

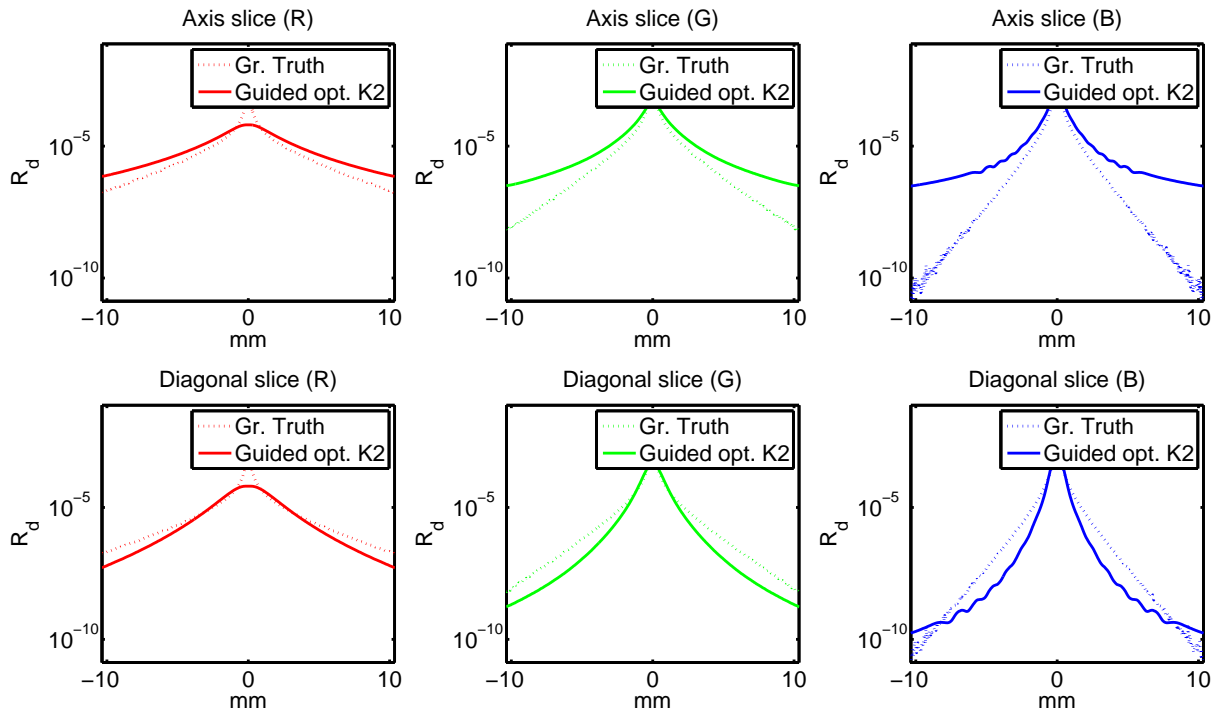


Figure S2.4: Skin1 - Guided optimization, $k=2$

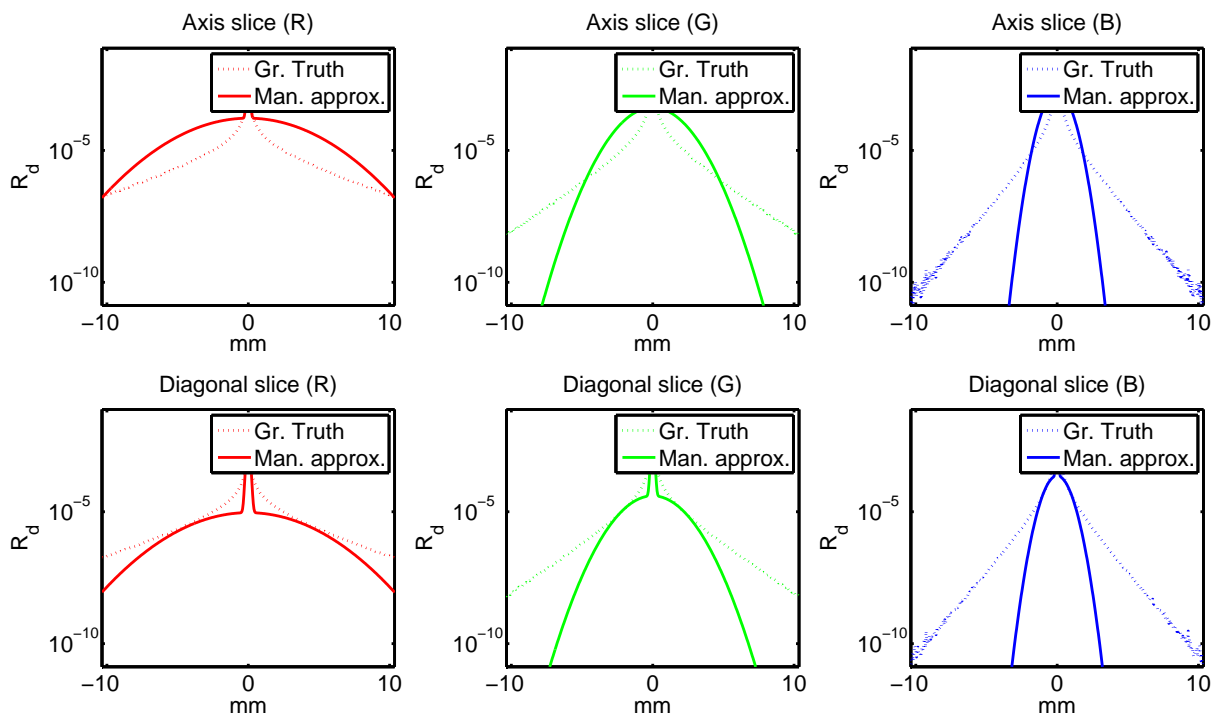


Figure S2.5: Skin1 - Manual approximation

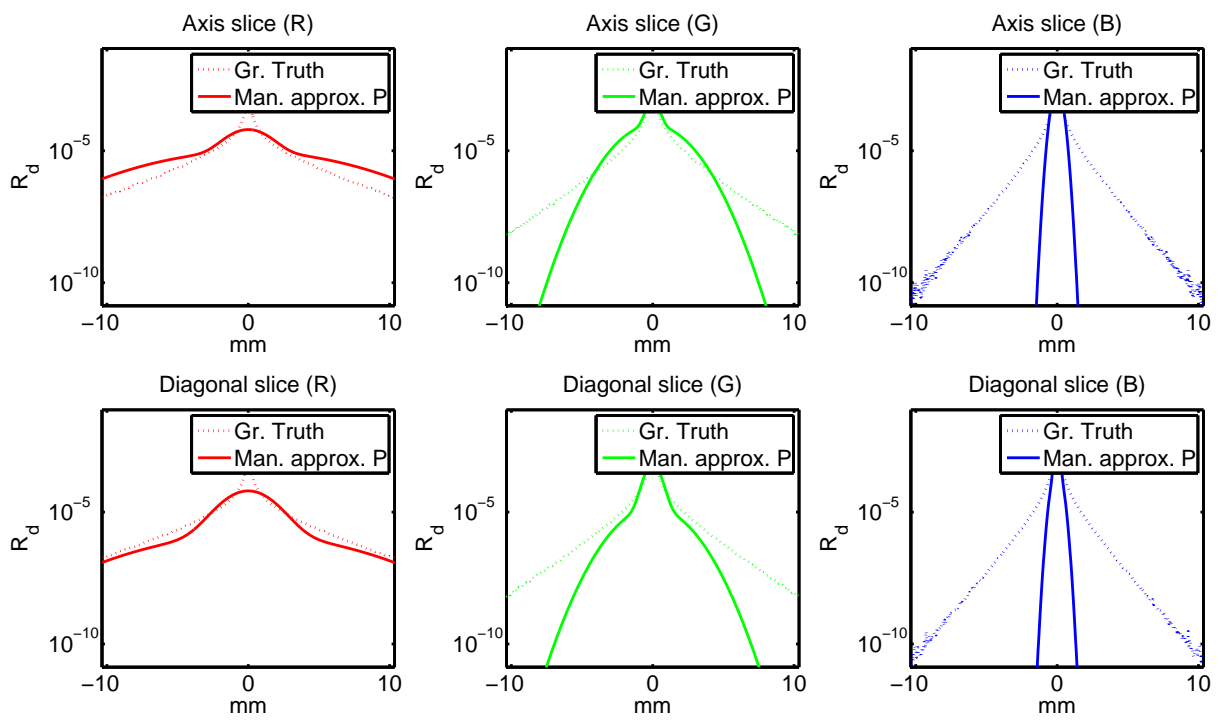


Figure S2.6: Skin1 - Manual approximation (Prod.)

H.2 SVD

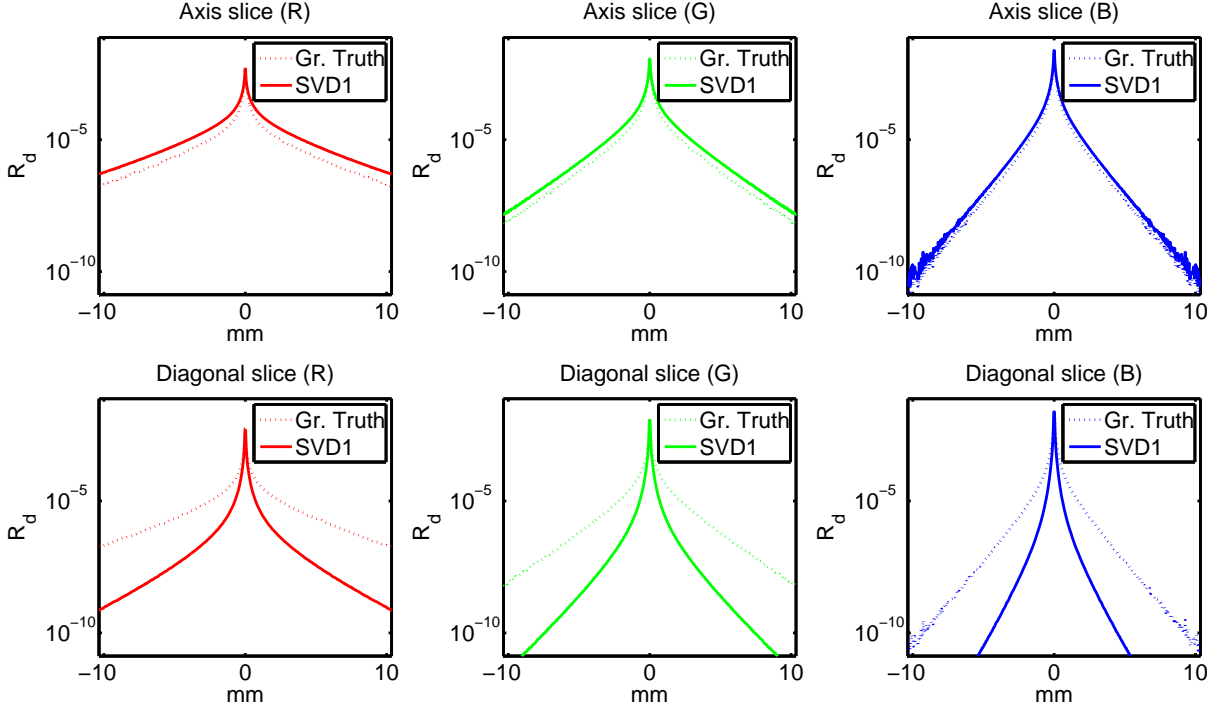


Figure S2.7: Skin1 - SVD rank-1

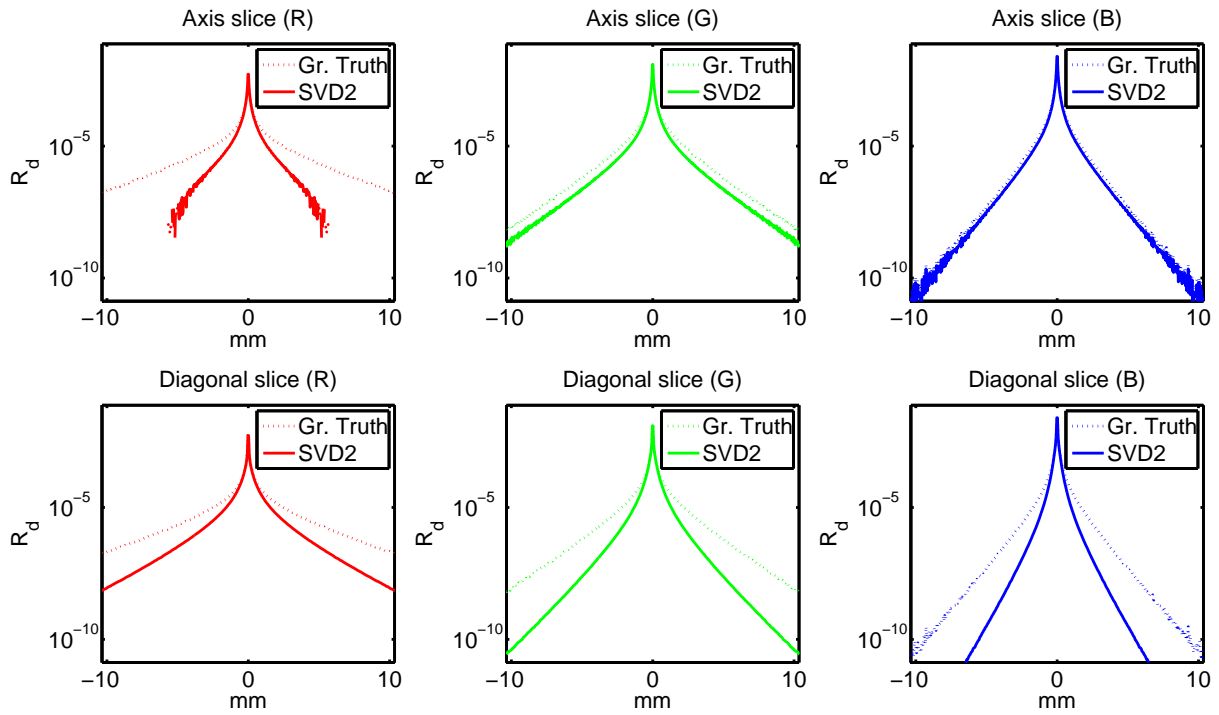


Figure S2.8: Skin1 - SVD rank-2

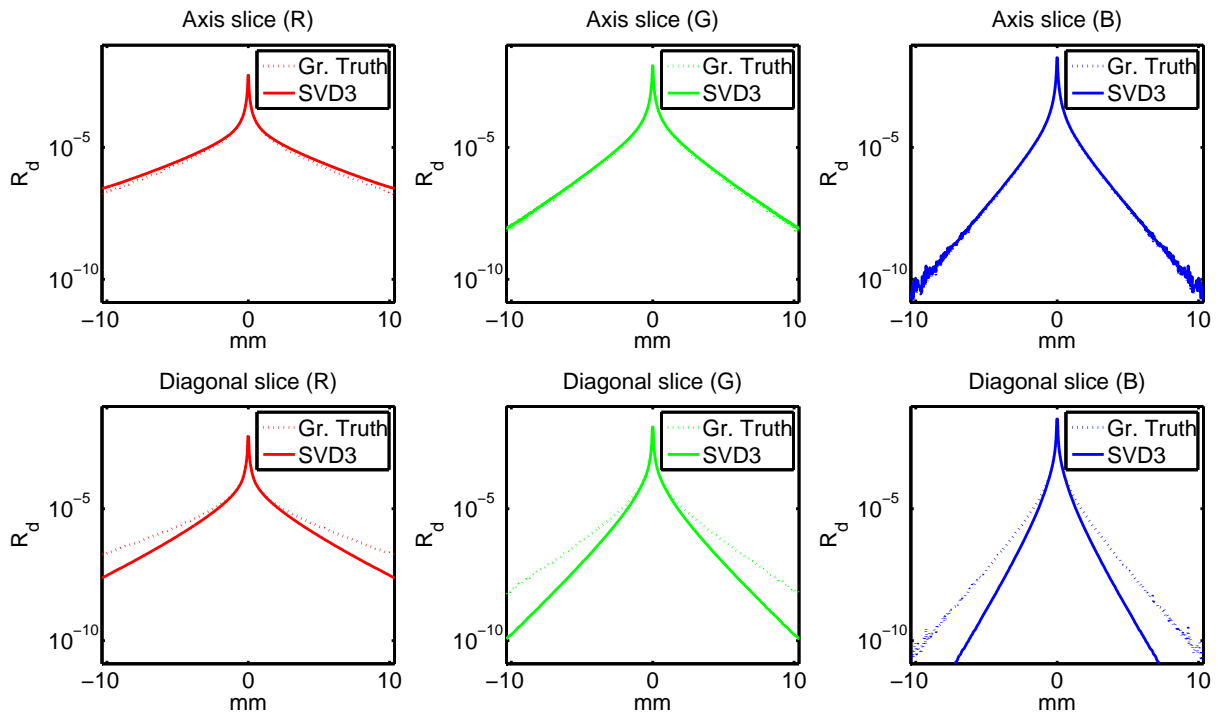


Figure S2.9: Skin1 - SVD rank-3

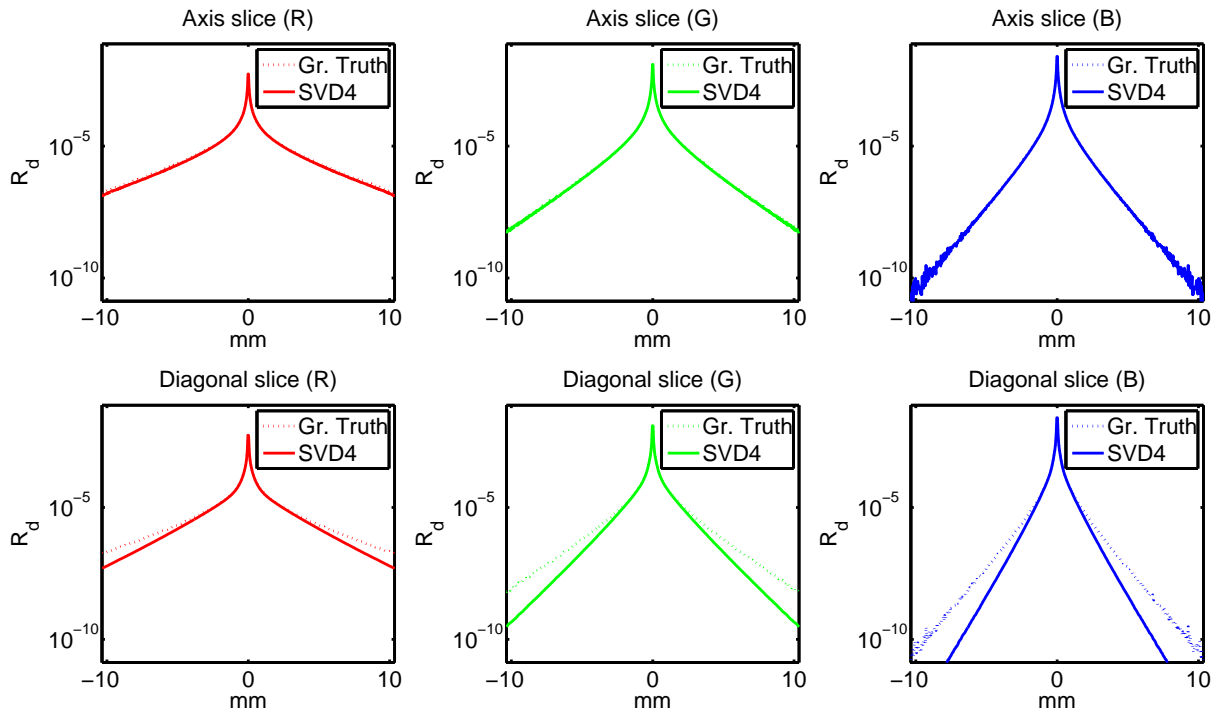


Figure S2.10: Skin1 - SVD rank-4

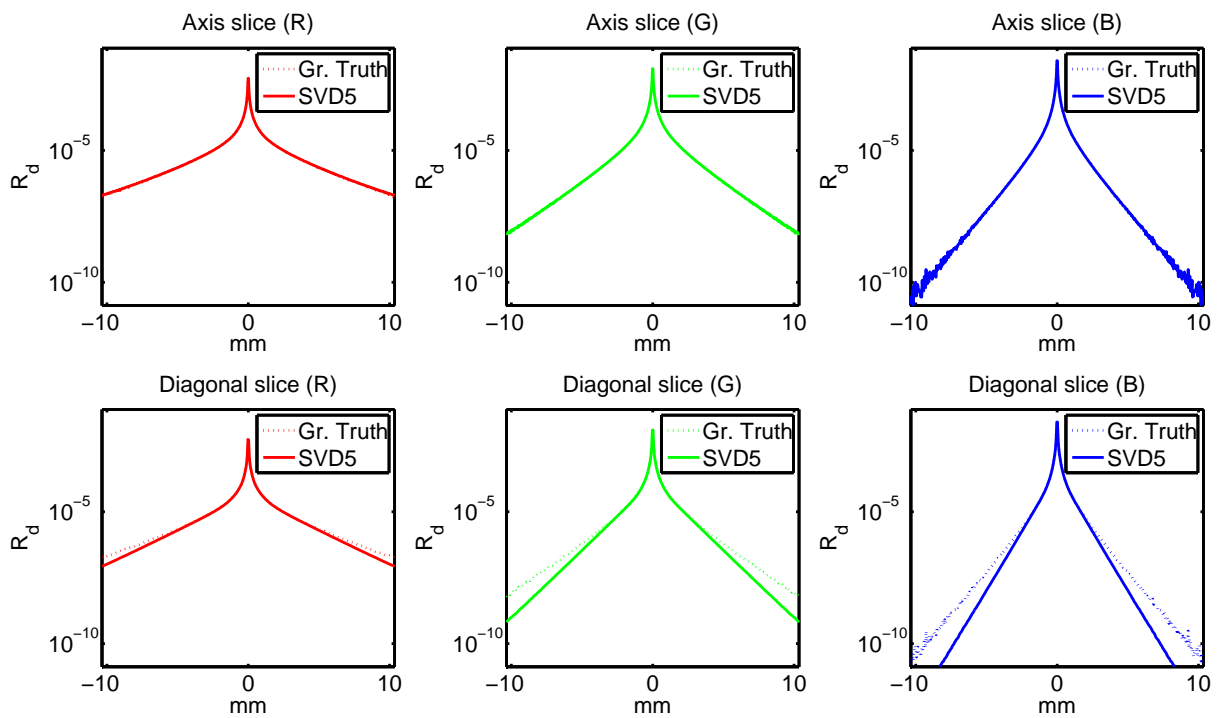


Figure S2.11: Skin1 - SVD rank-5

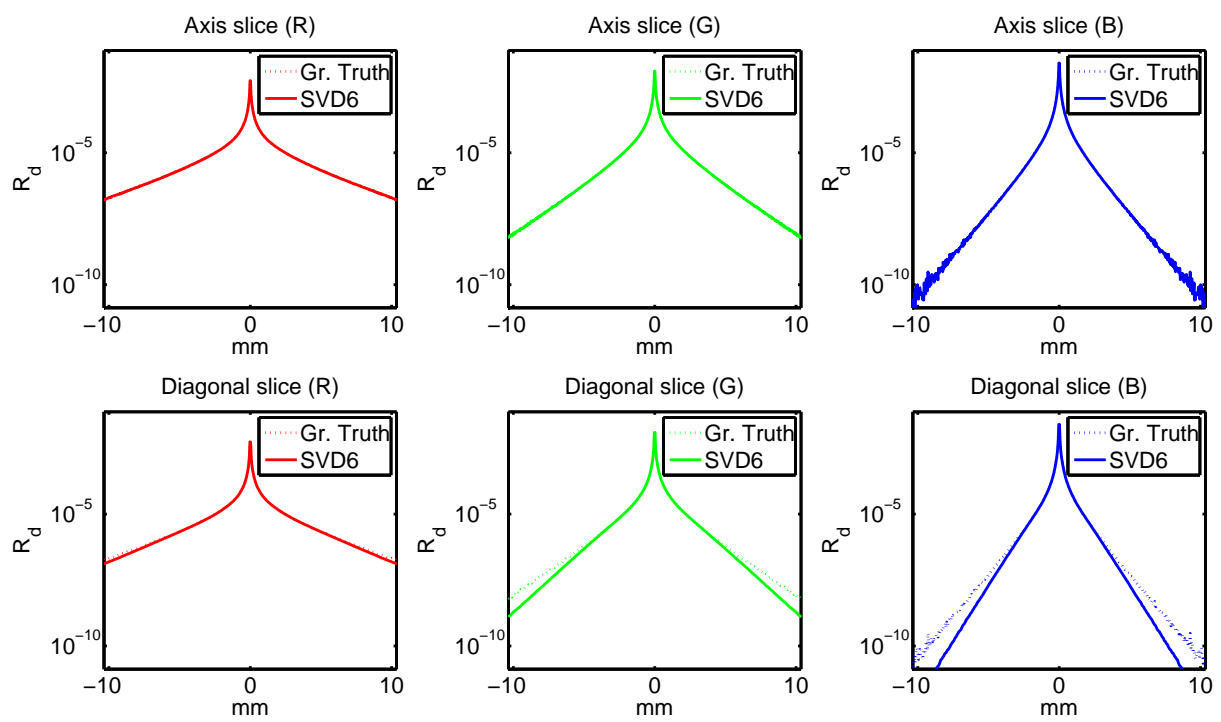


Figure S2.12: Skin1 - SVD rank-6

H.3 d'Eon

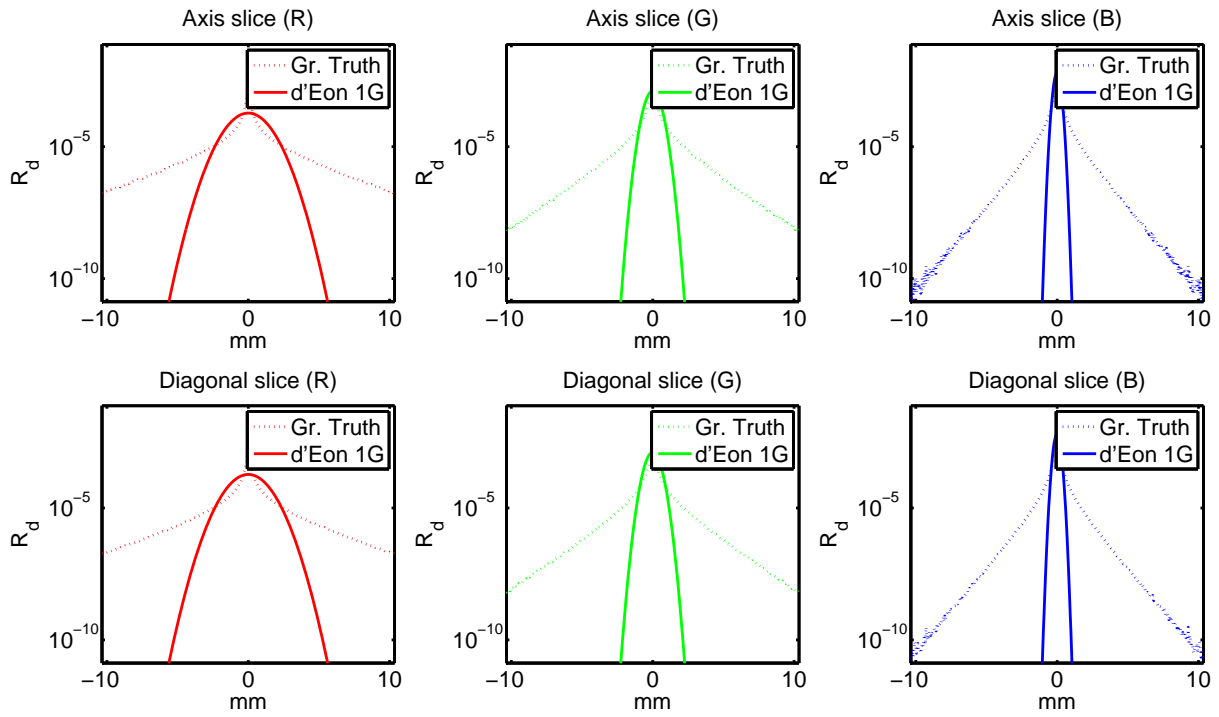


Figure S2.13: Skin1 - d'Eon 1 Gaussian

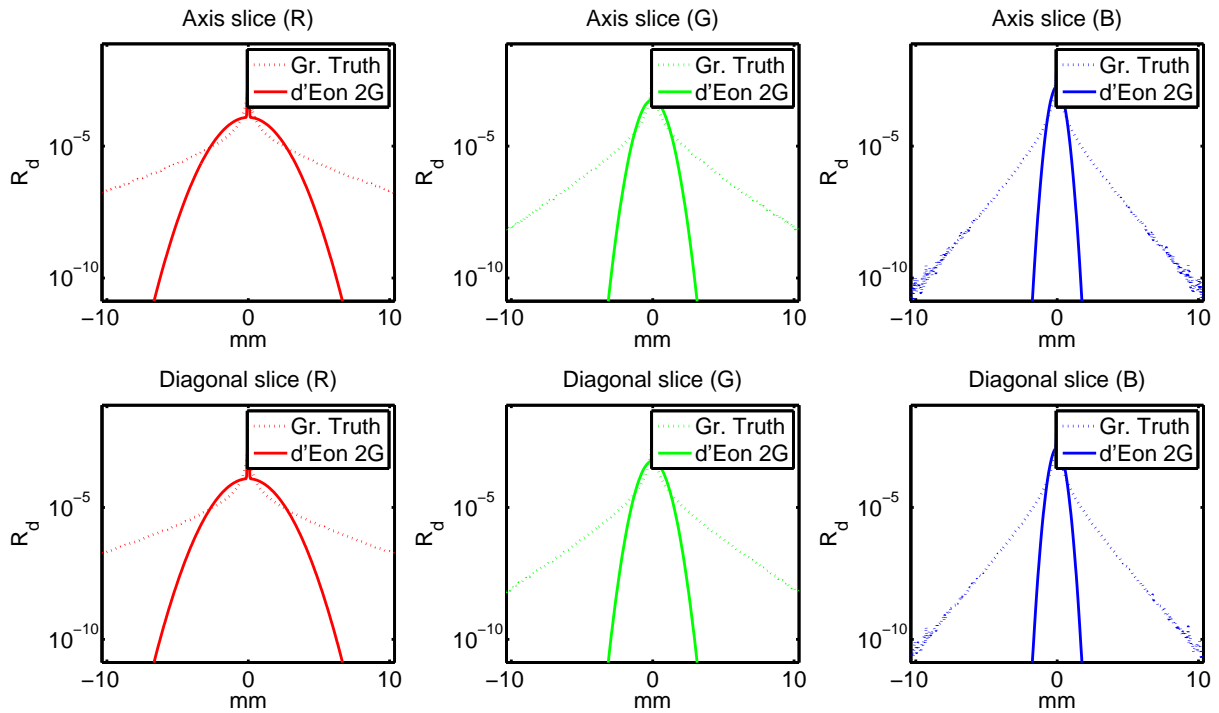


Figure S2.14: Skin1 - d'Eon 2 Gaussian

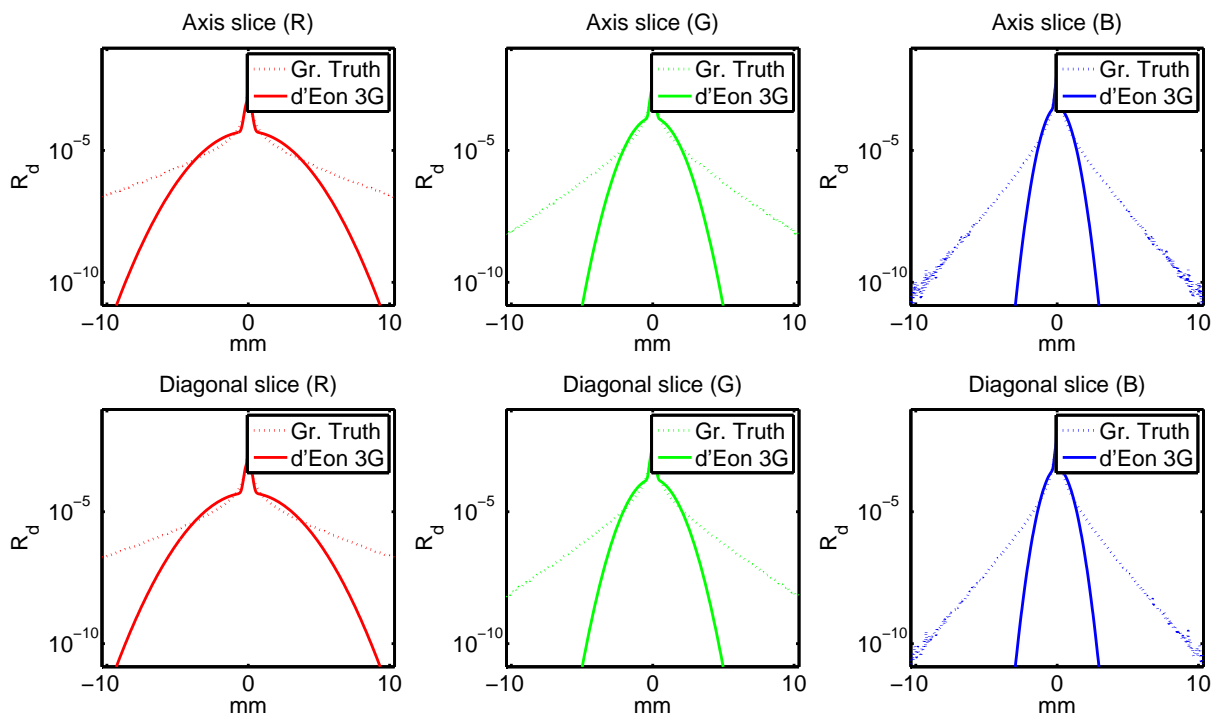


Figure S2.15: Skin1 - d'Eon 3 Gaussian

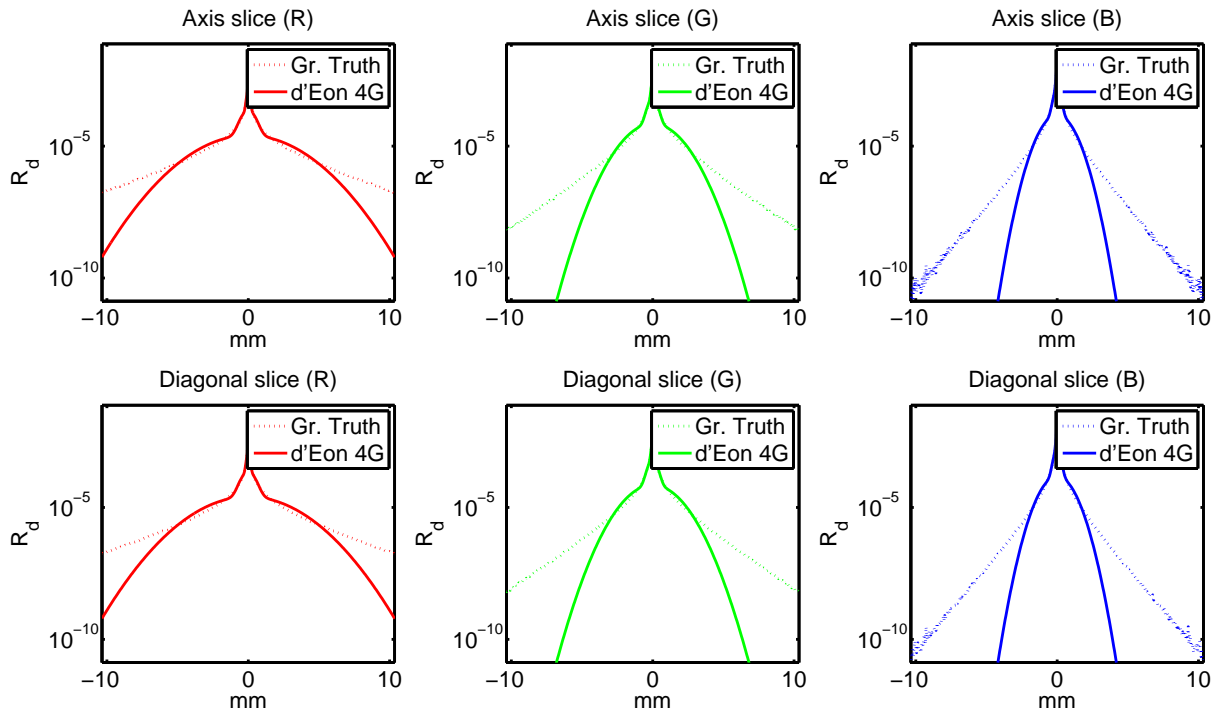


Figure S2.16: Skin1 - d'Eon 4 Gaussian

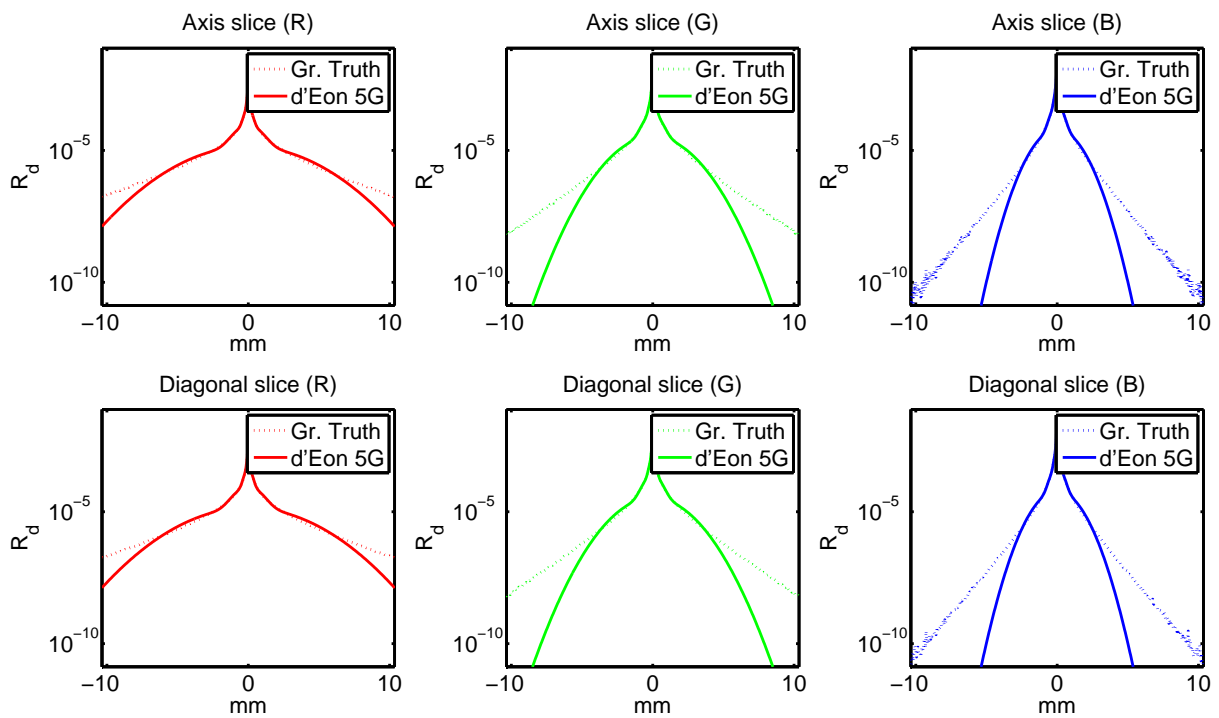


Figure S2.17: Skin1 - d'Eon 5 Gaussian

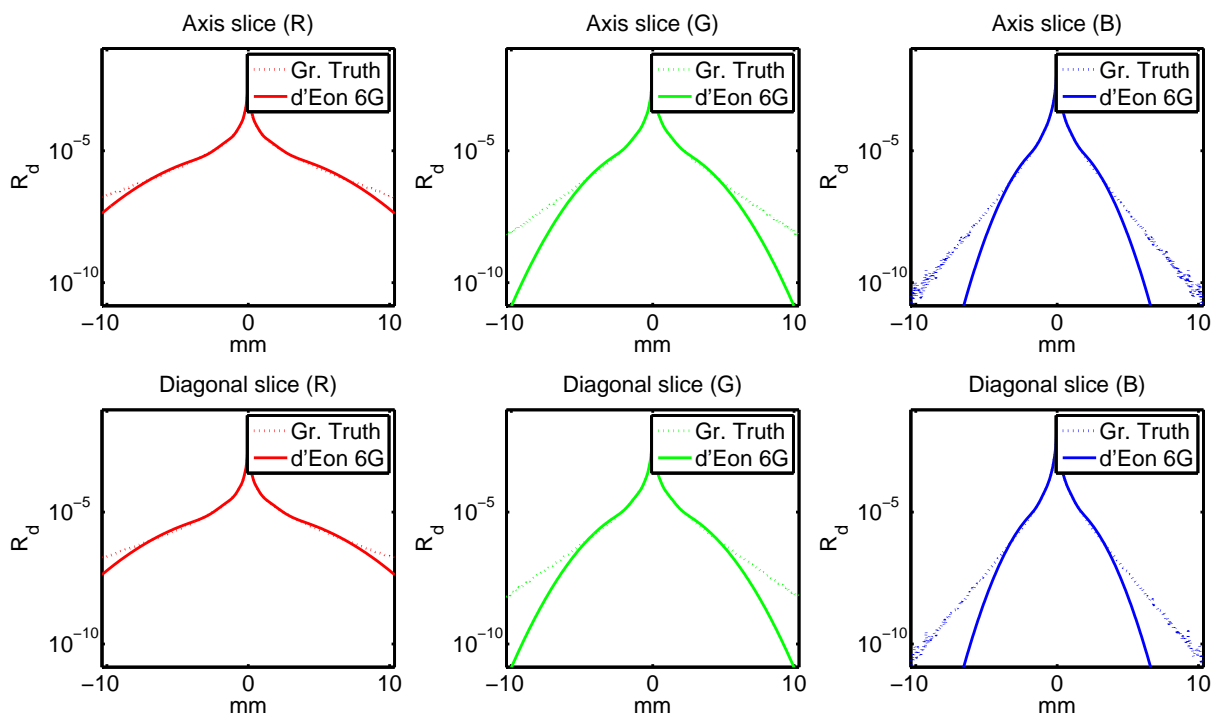


Figure S2.18: Skin1 - d'Eon 6 Gaussian

I Marble

I.1 Rank-1

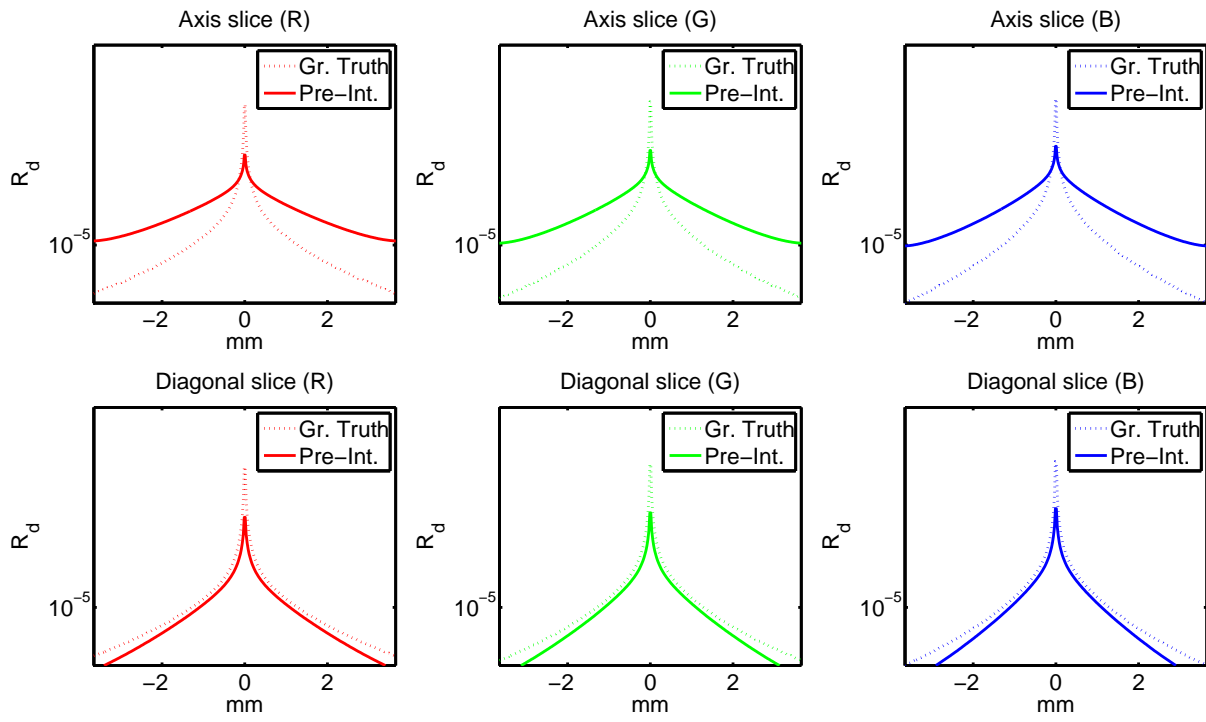


Figure S2.19: Marble - Kernel pre-integration

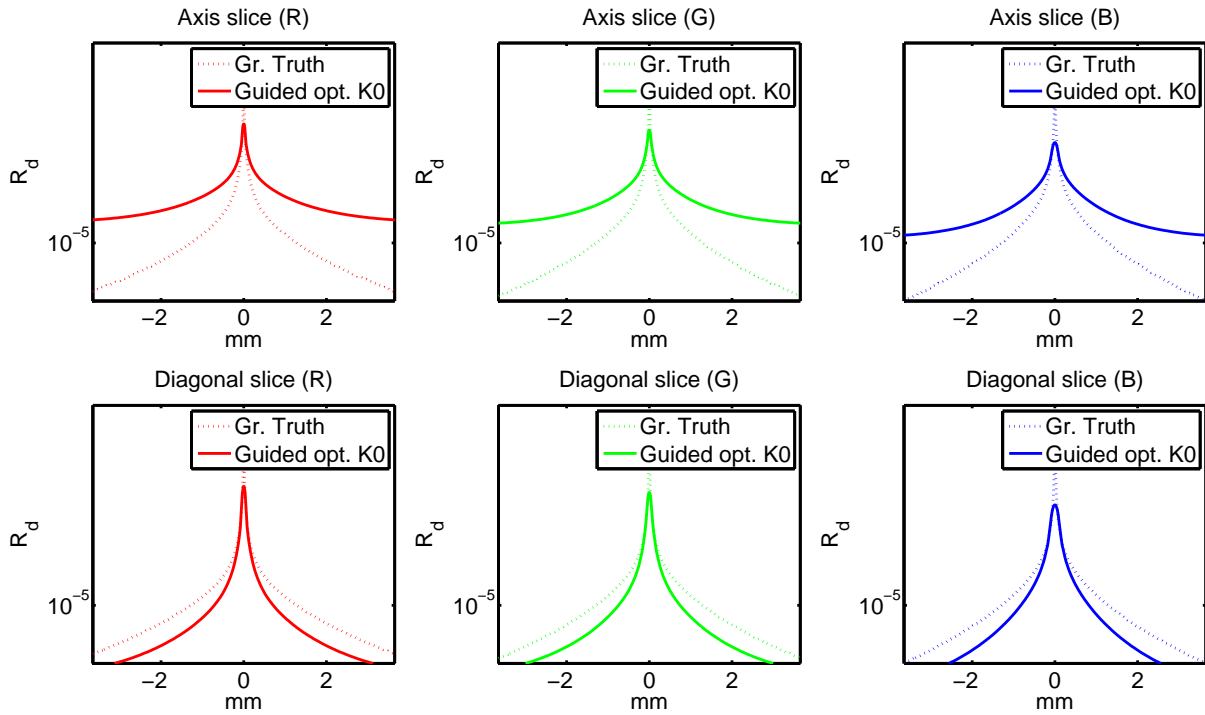


Figure S2.20: Marble - Guided optimization, $k=0$

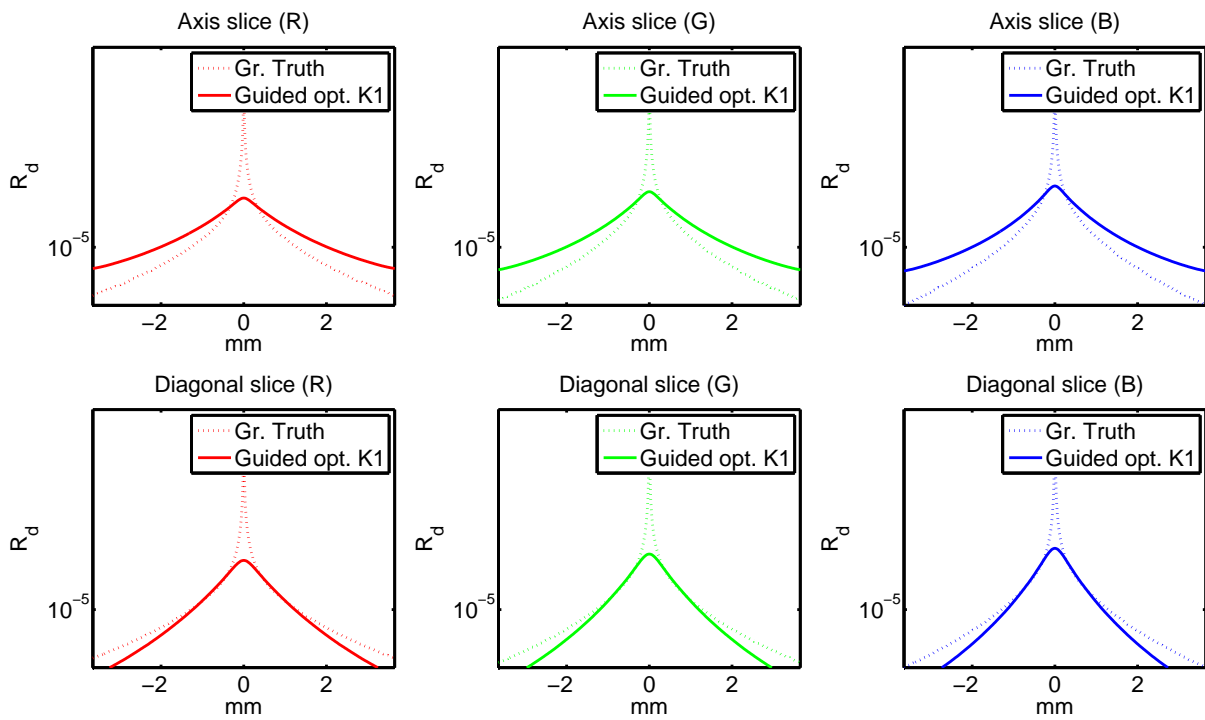


Figure S2.21: Marble - Guided optimization, $k=1$

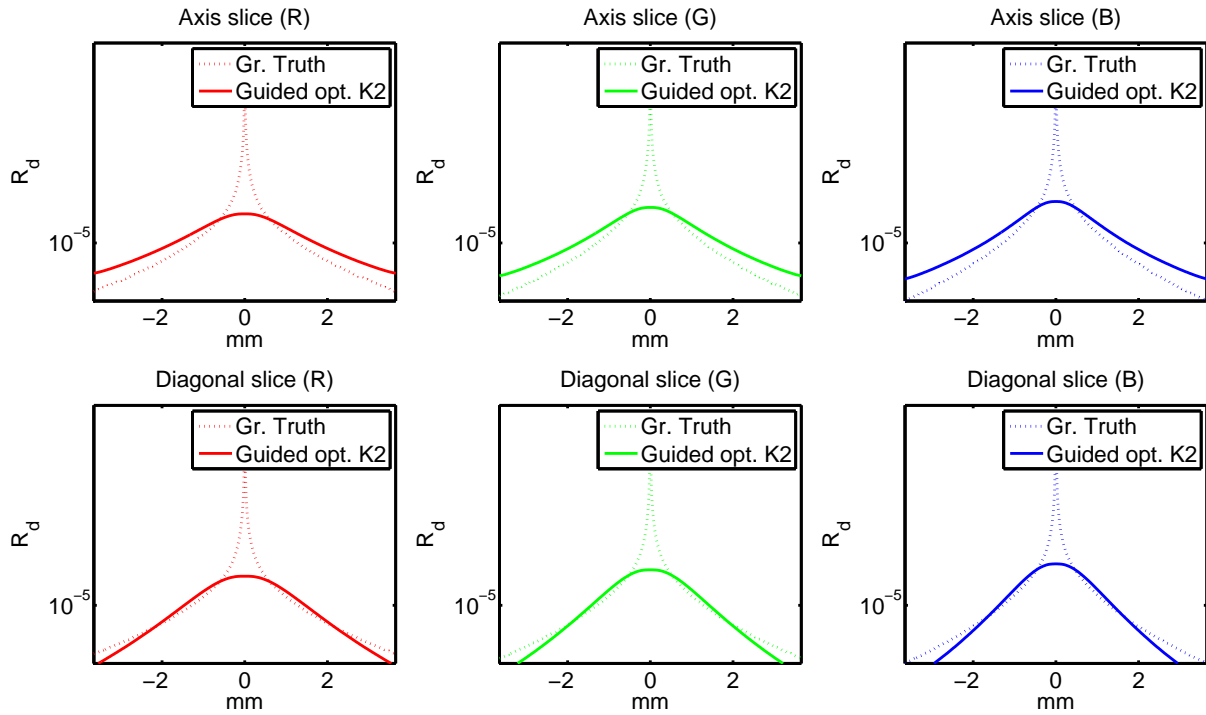


Figure S2.22: Marble - Guided optimization, k=2

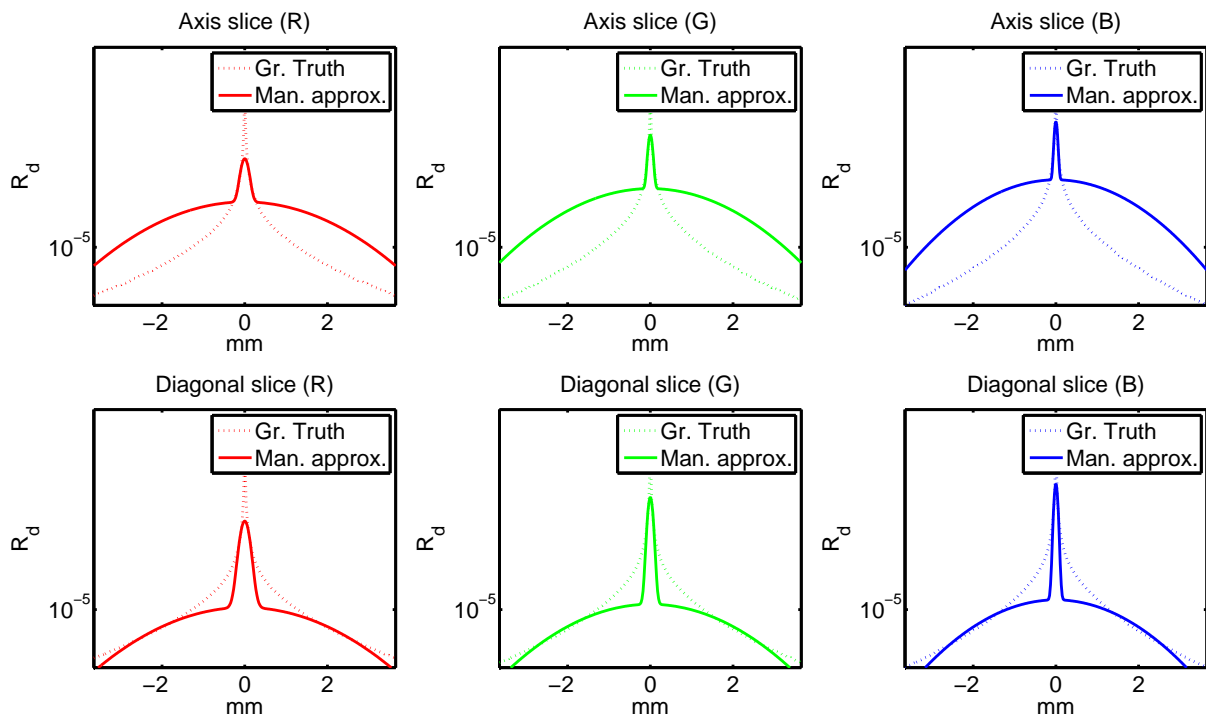


Figure S2.23: Marble - Manual approximation

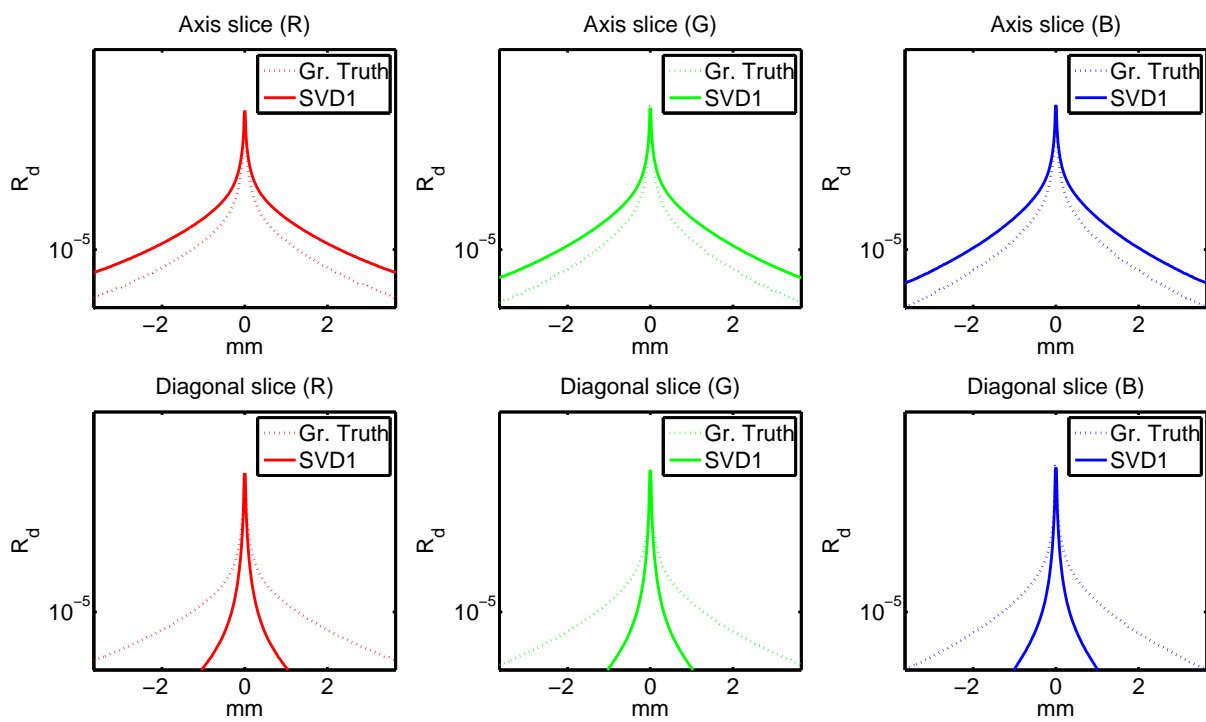


Figure S2.24: Marble - SVD rank-1

I.2 SVD

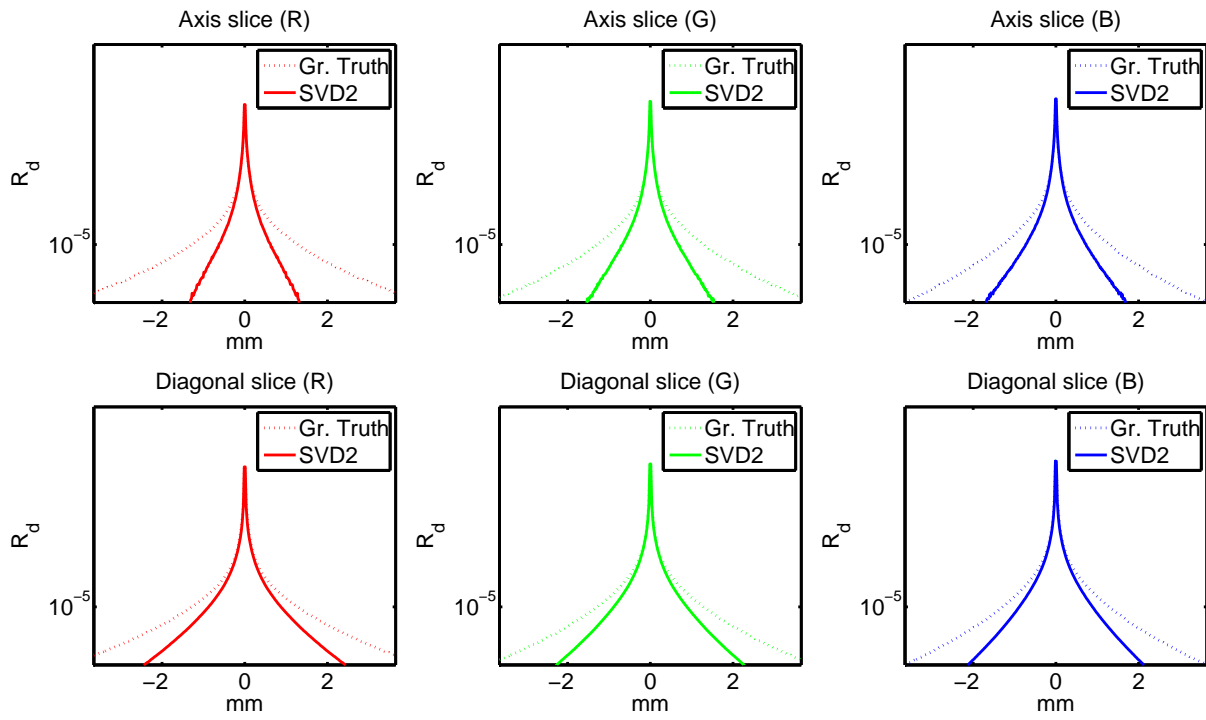


Figure S2.25: Marble - SVD rank-2

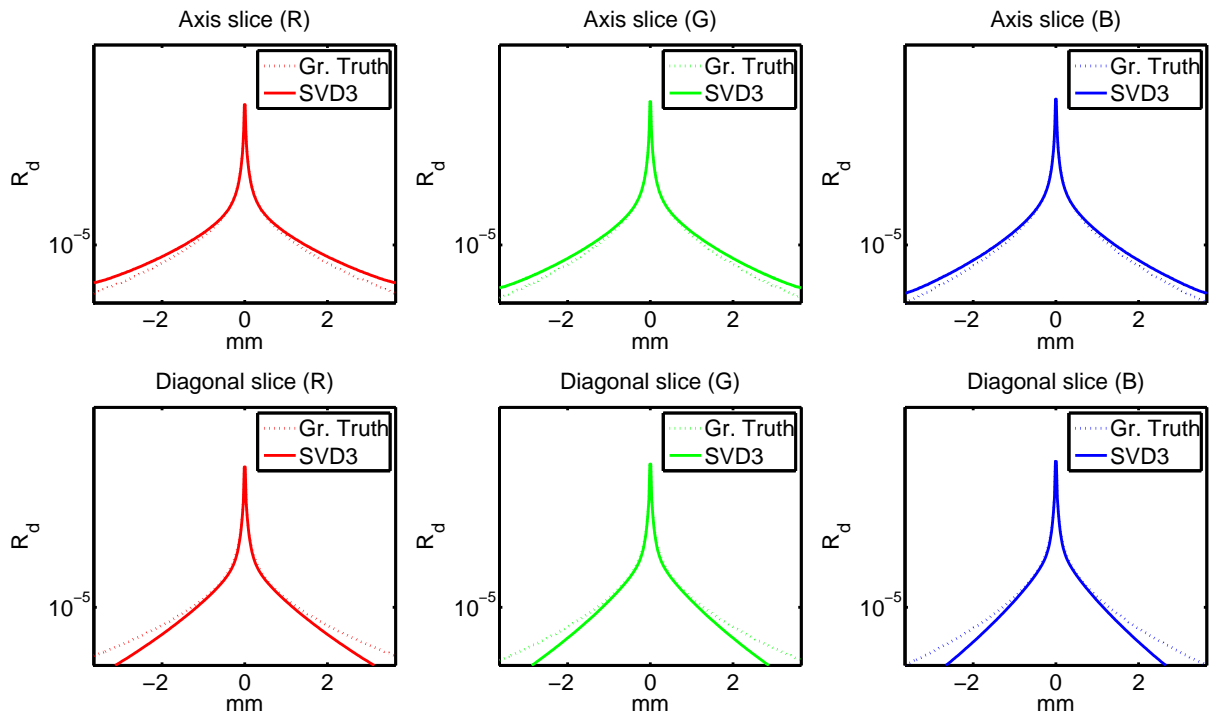


Figure S2.26: Marble - SVD rank-3

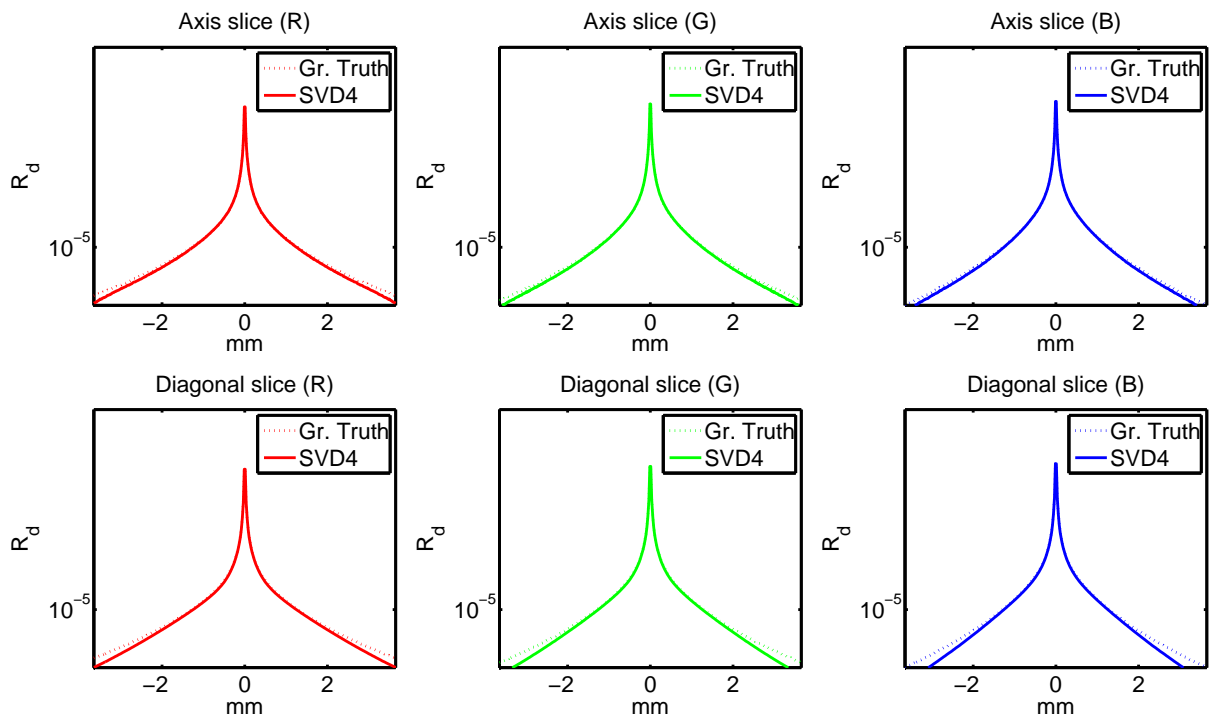


Figure S2.27: Marble - SVD rank-4

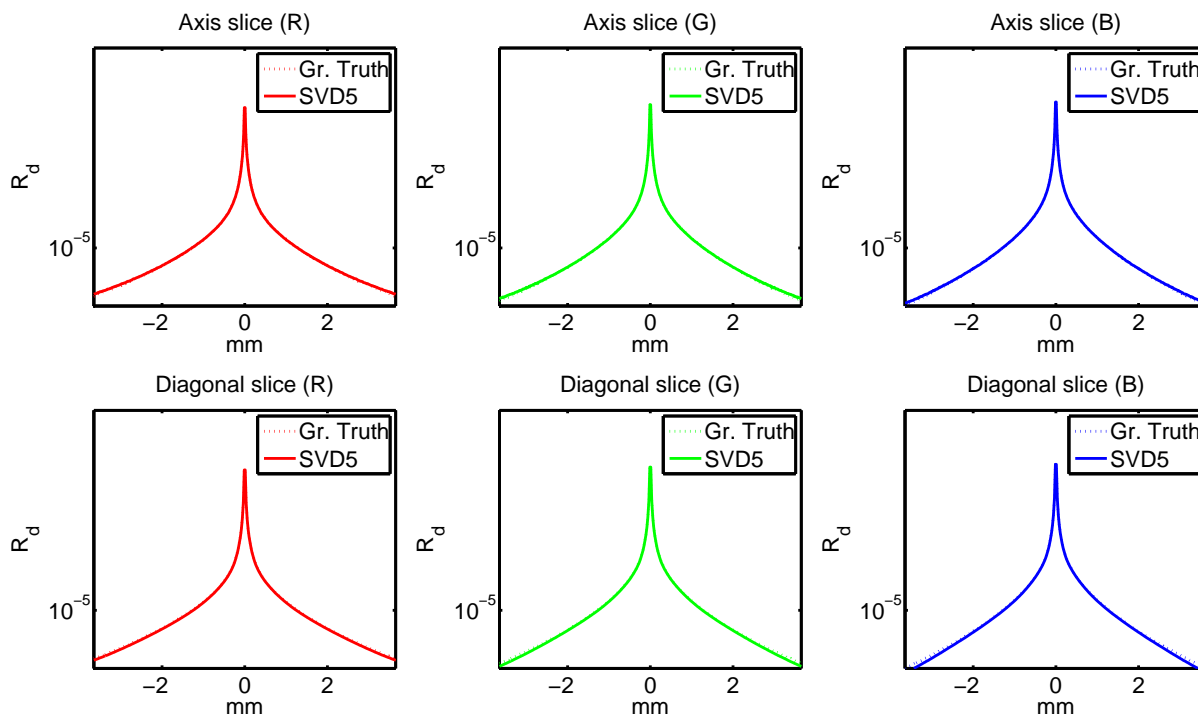


Figure S2.28: Marble - SVD rank-5

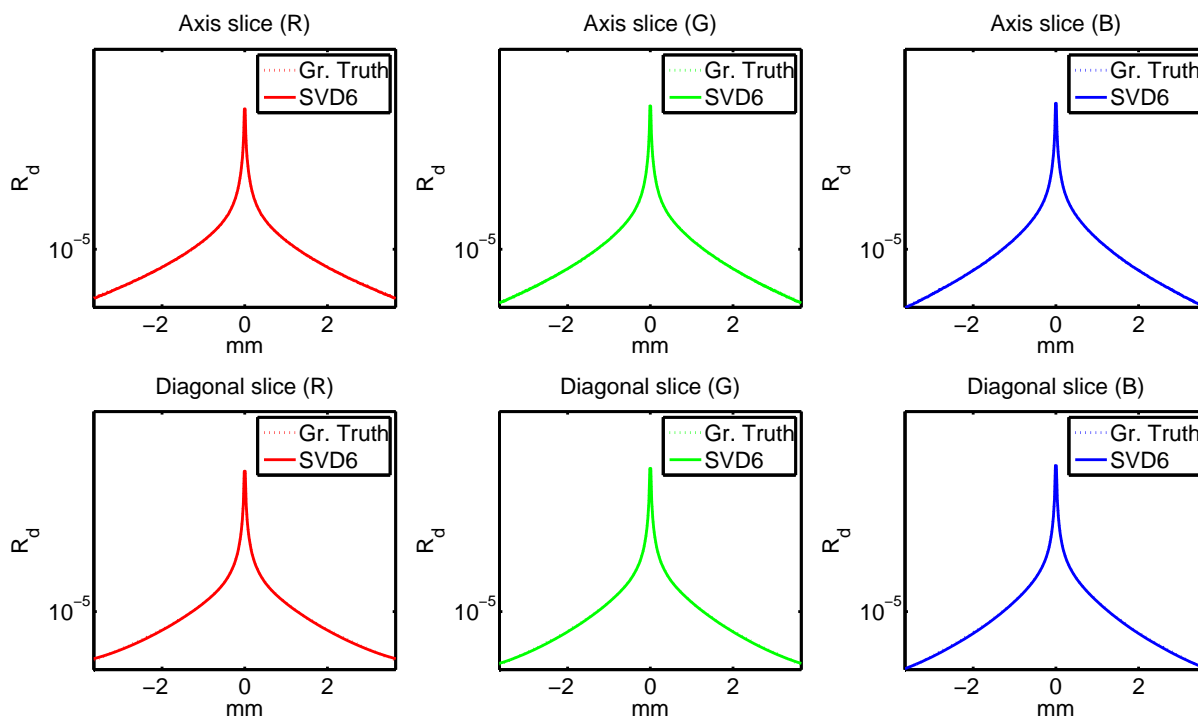


Figure S2.29: Marble - SVD rank-6

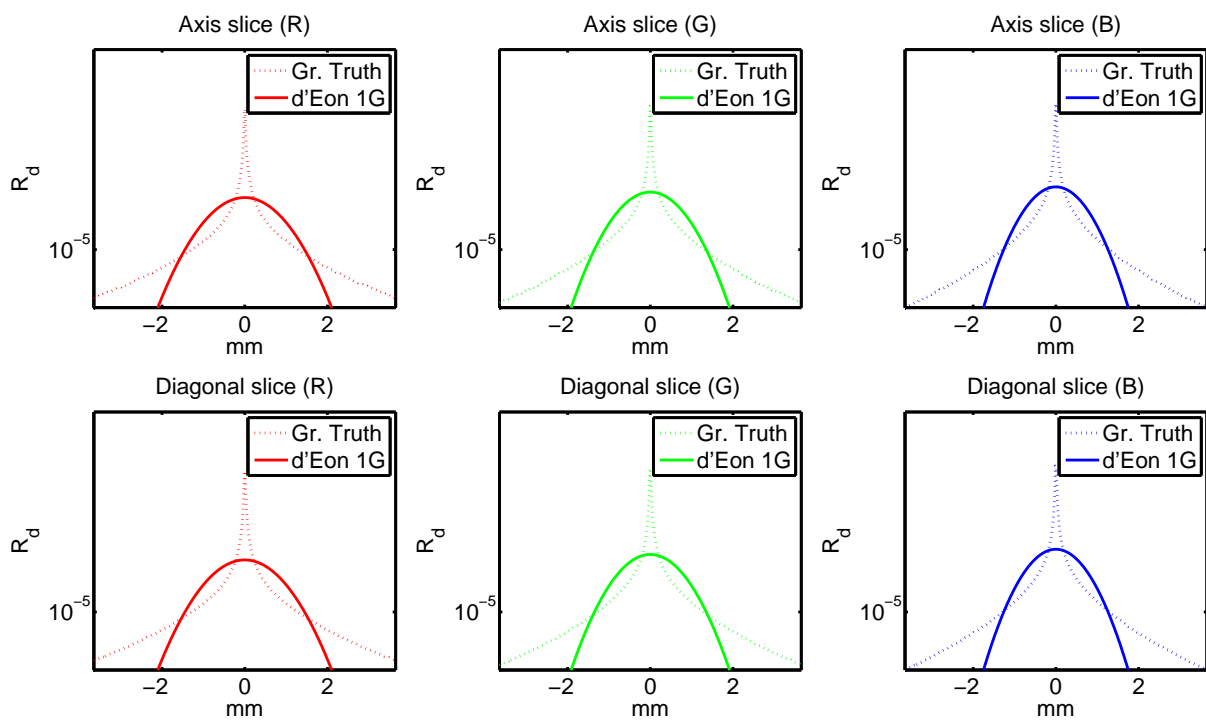


Figure S2.30: Marble - d'Eon 1 Gaussian

I.3 d'Eon

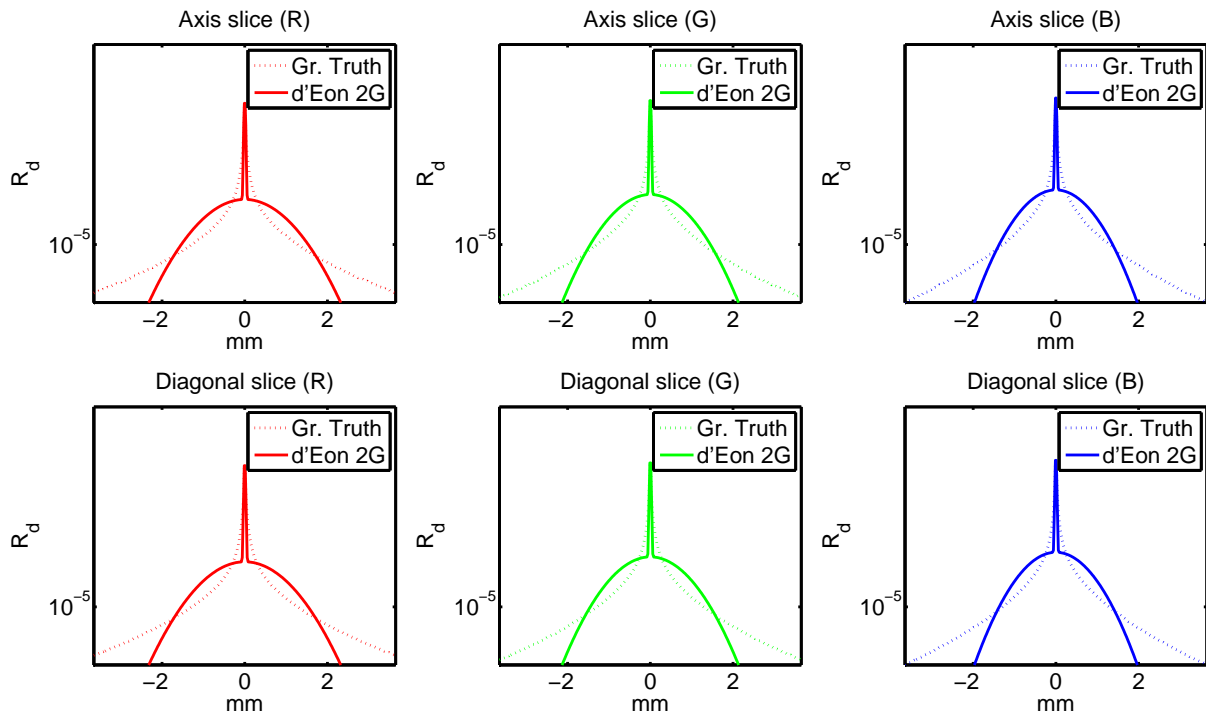


Figure S2.31: Marble - d'Eon 2 Gaussian

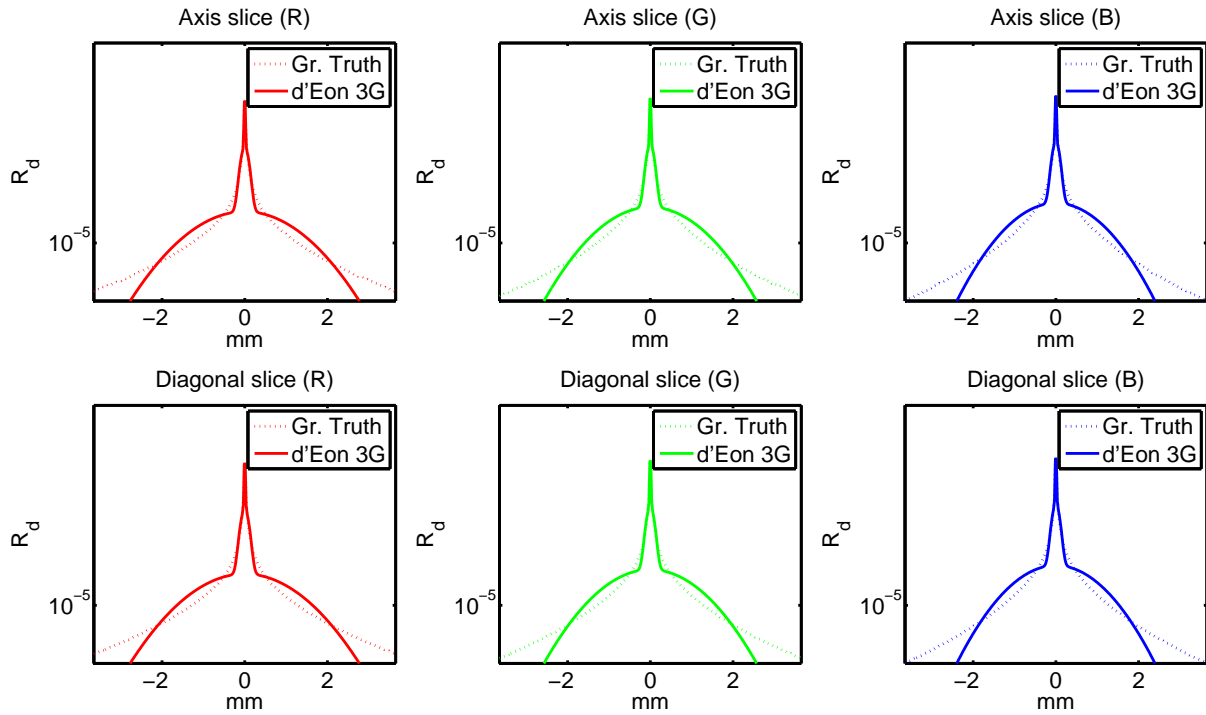


Figure S2.32: Marble - d'Eon 3 Gaussian

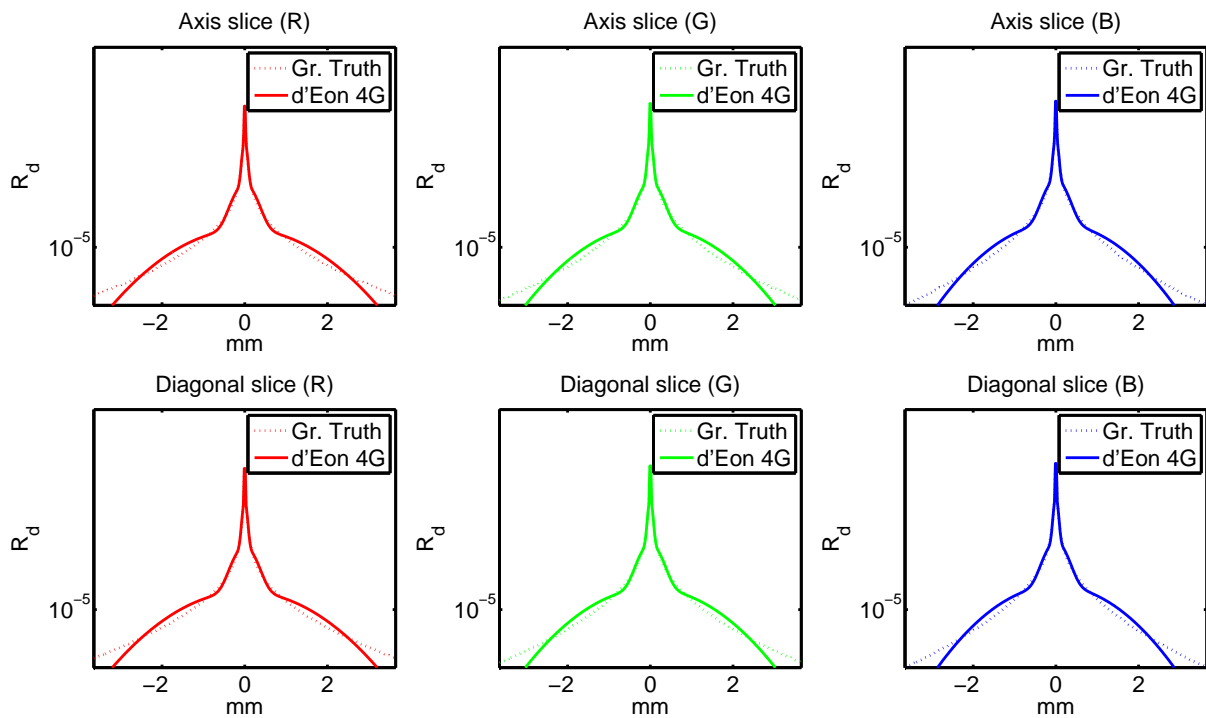


Figure S2.33: Marble - d'Eon 4 Gaussian

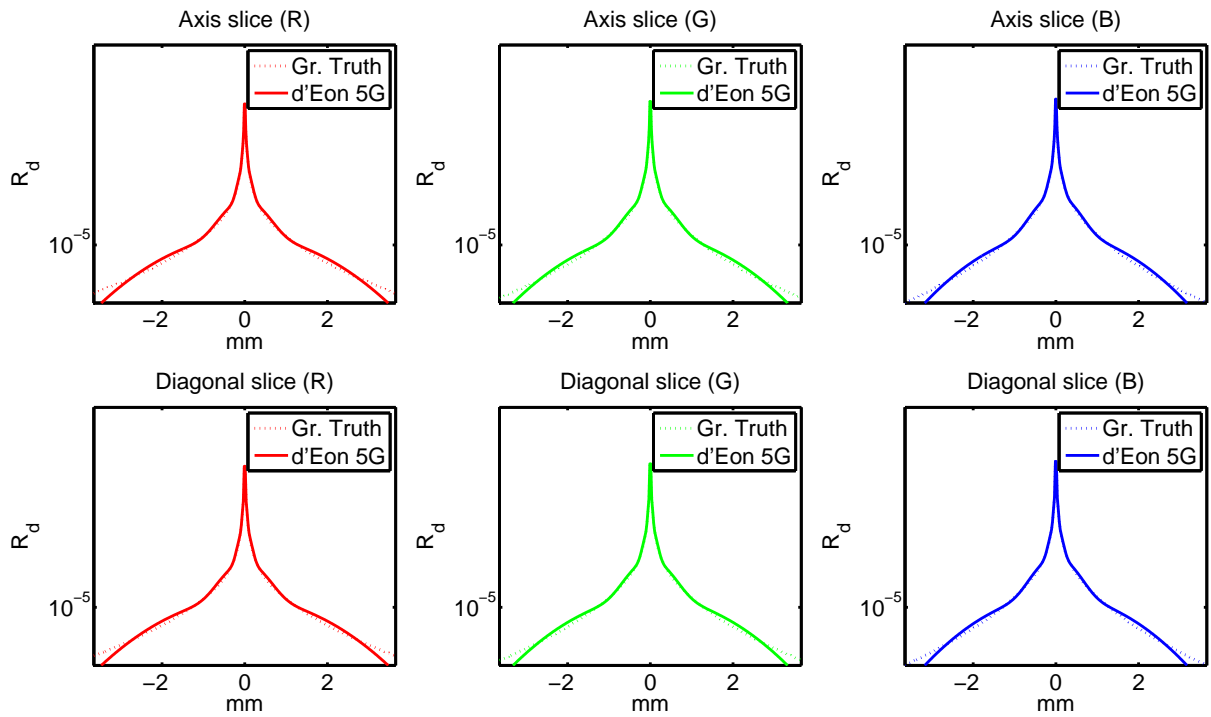


Figure S2.34: Marble - d'Eon 5 Gaussian

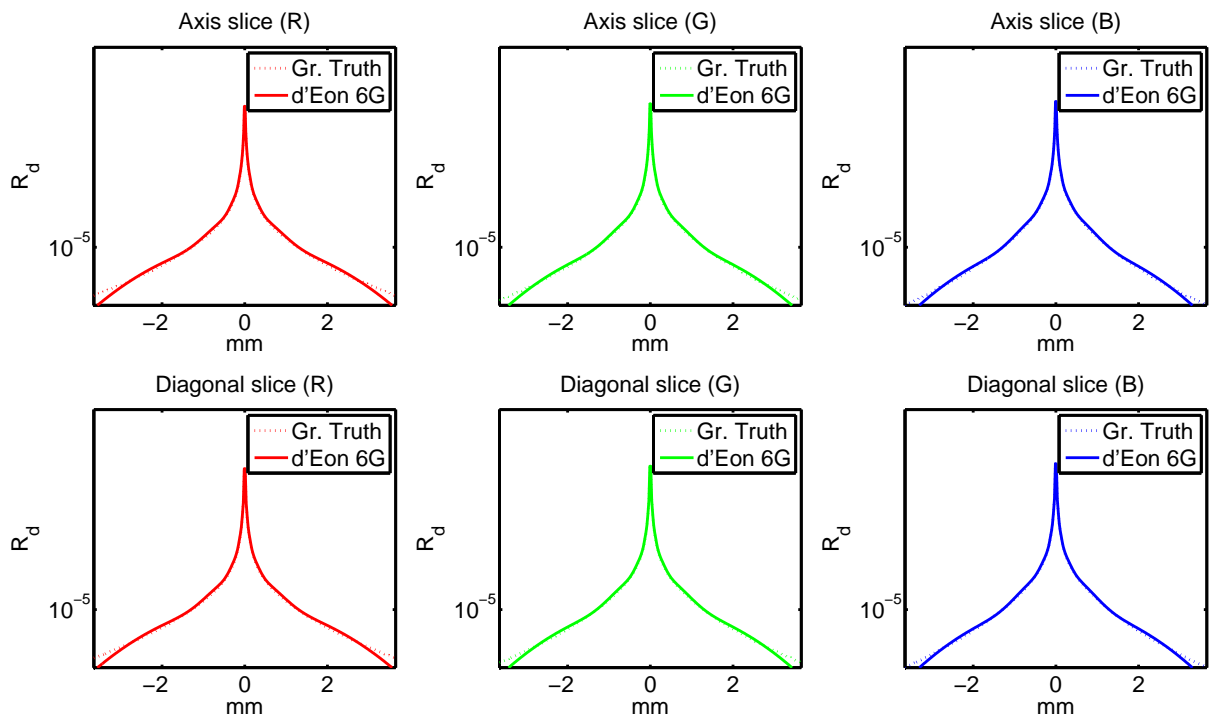


Figure S2.35: Marble - d'Eon 6 Gaussian

J Wholemilk

J.1 Rank-1

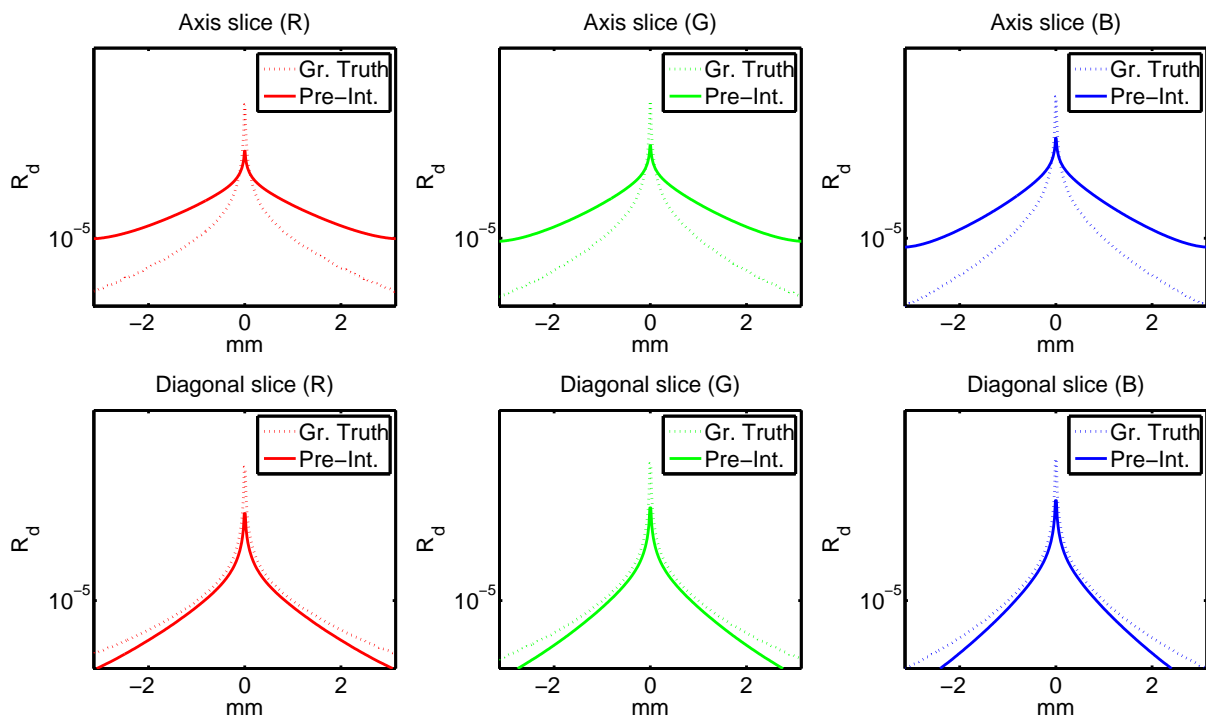


Figure S2.36: Wholemilk - Kernel pre-integration

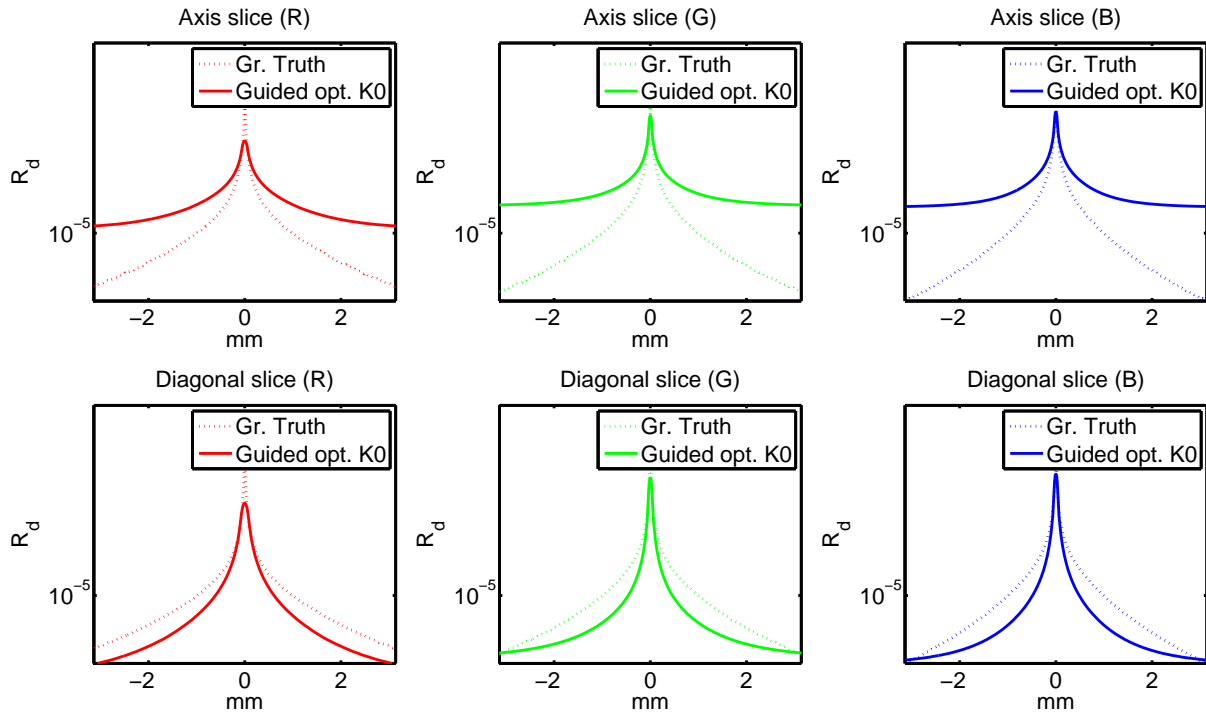


Figure S2.37: Wholemilk - Guided optimization, $k=0$

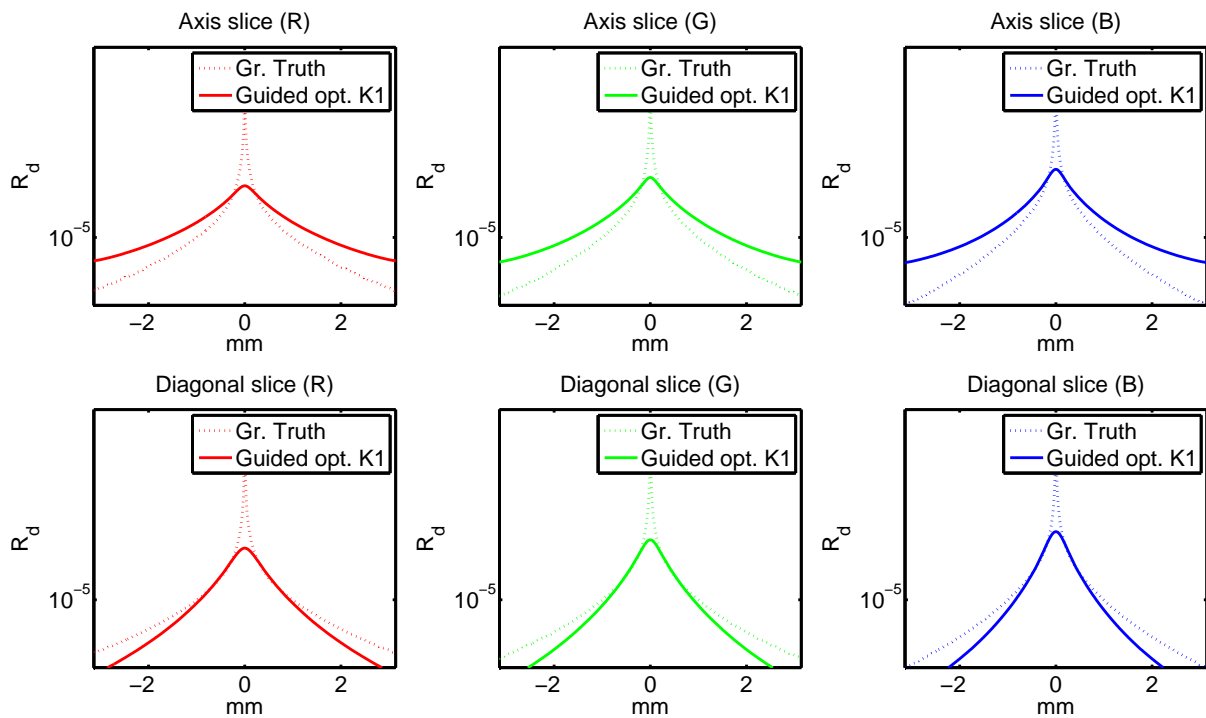


Figure S2.38: Wholemilk - Guided optimization, $k=1$

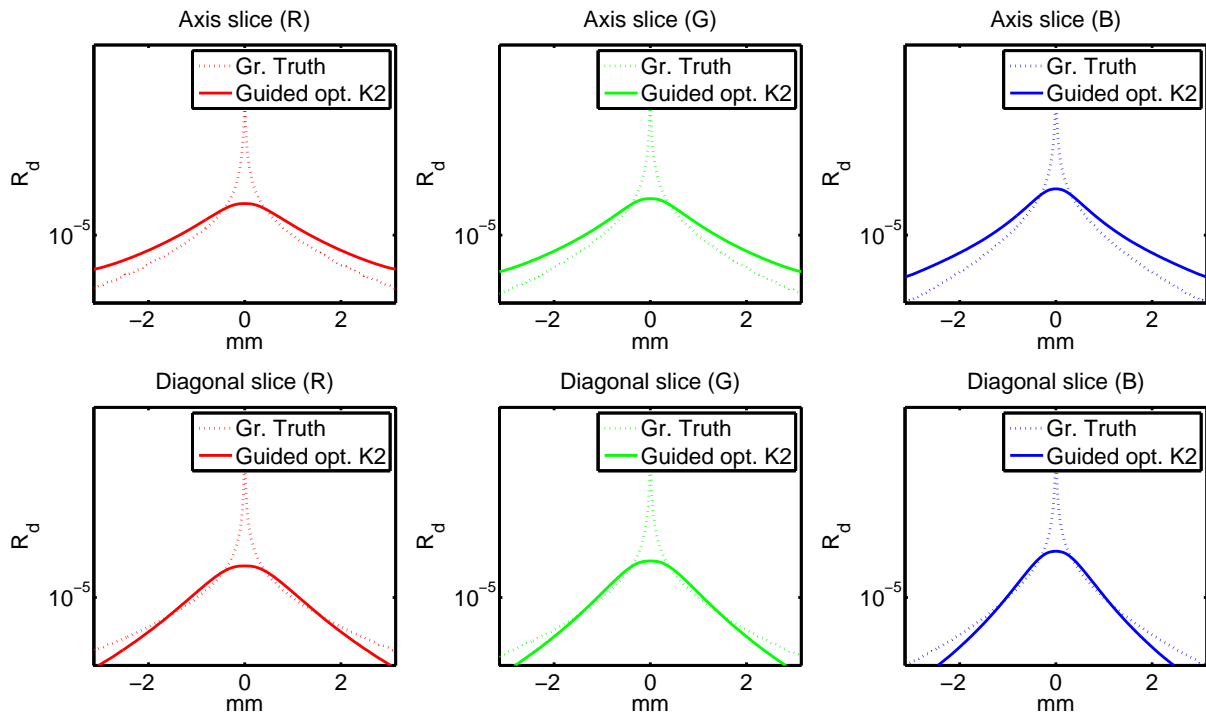


Figure S2.39: Wholemilk - Guided optimization, $k=2$

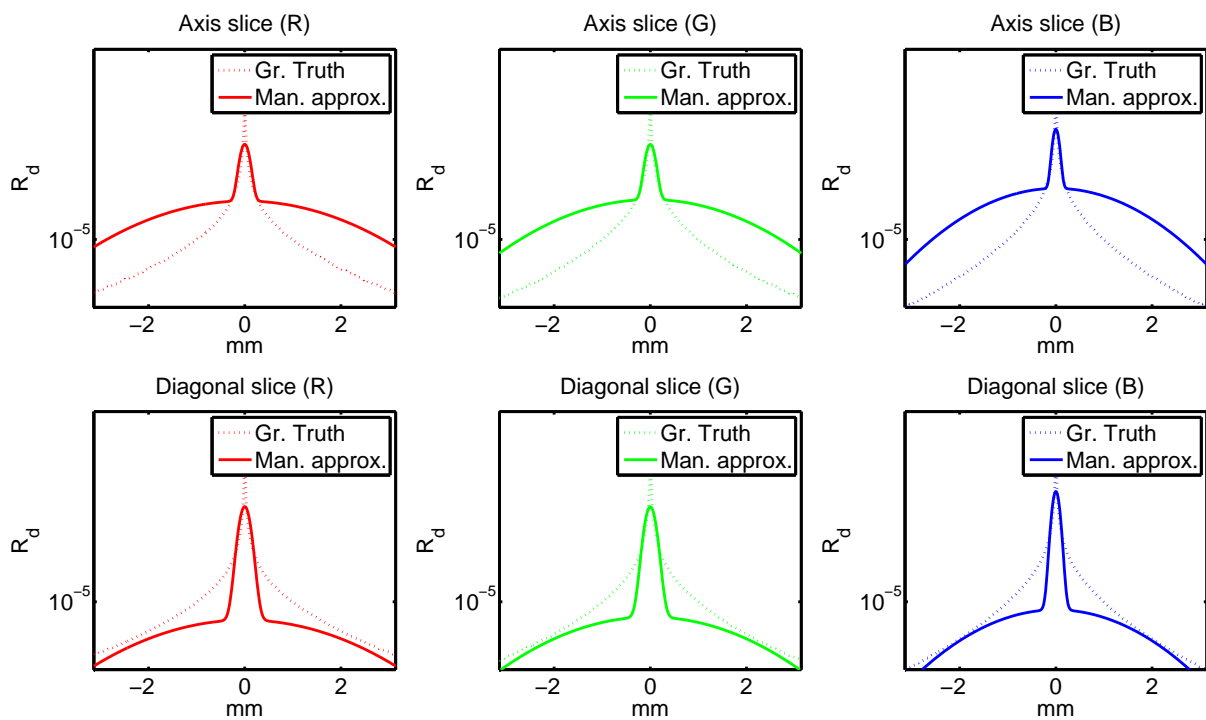


Figure S2.40: Wholemilk - Manual approximation

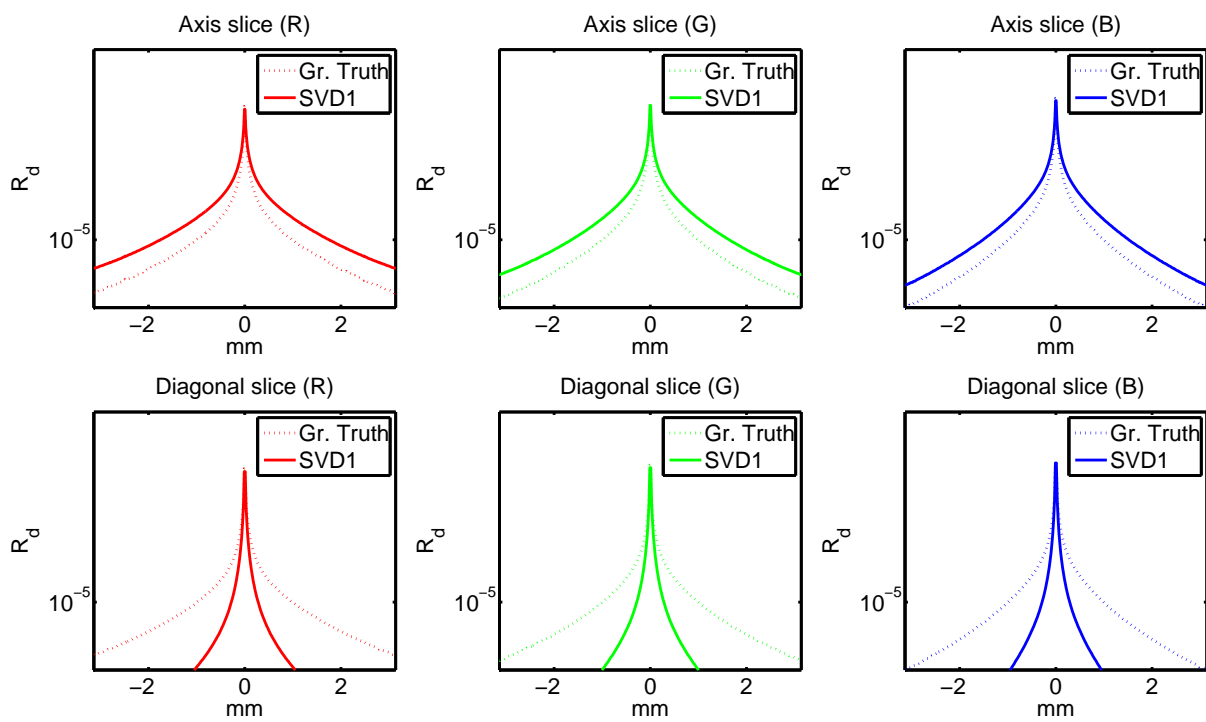


Figure S2.41: Wholemilk - SVD rank-1

J.2 SVD

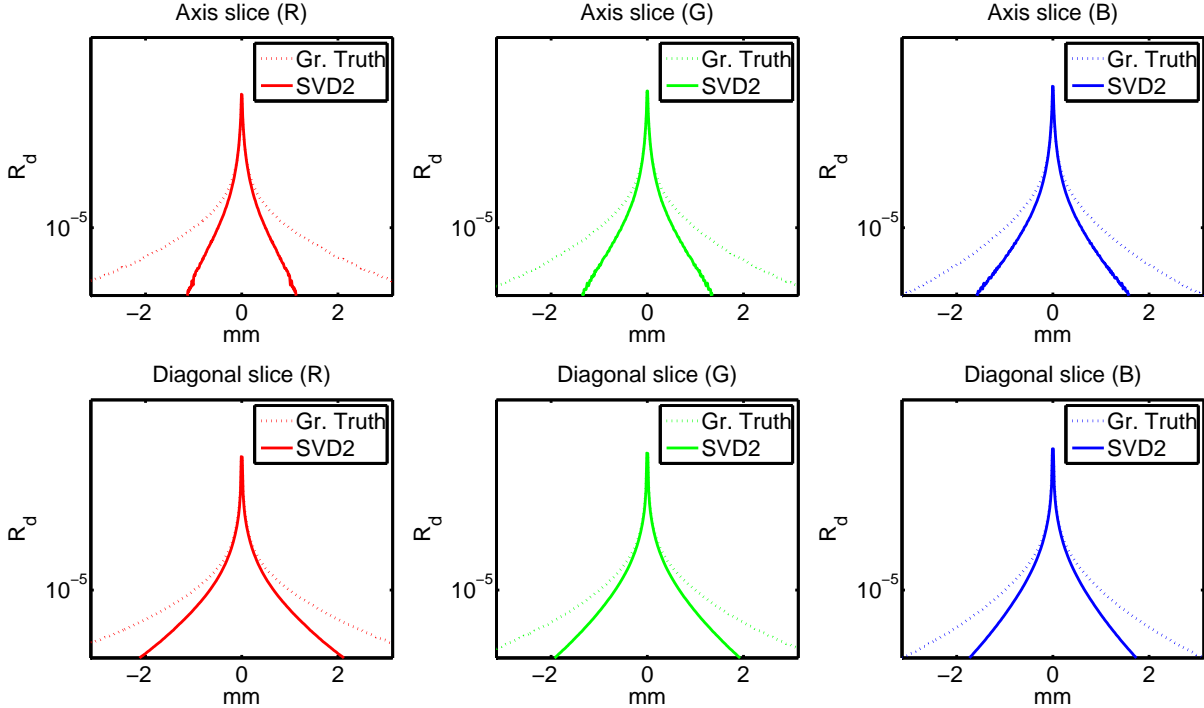


Figure S2.42: Wholemilk - SVD rank-2

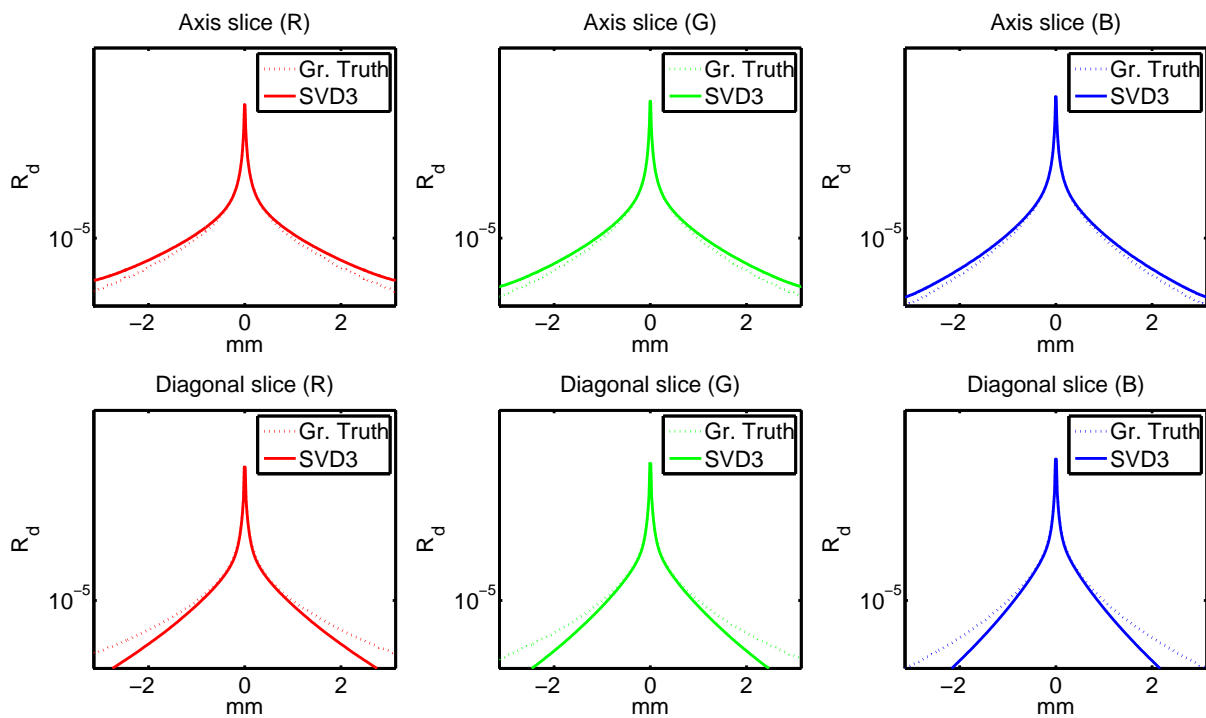


Figure S2.43: Wholemilk - SVD rank-3

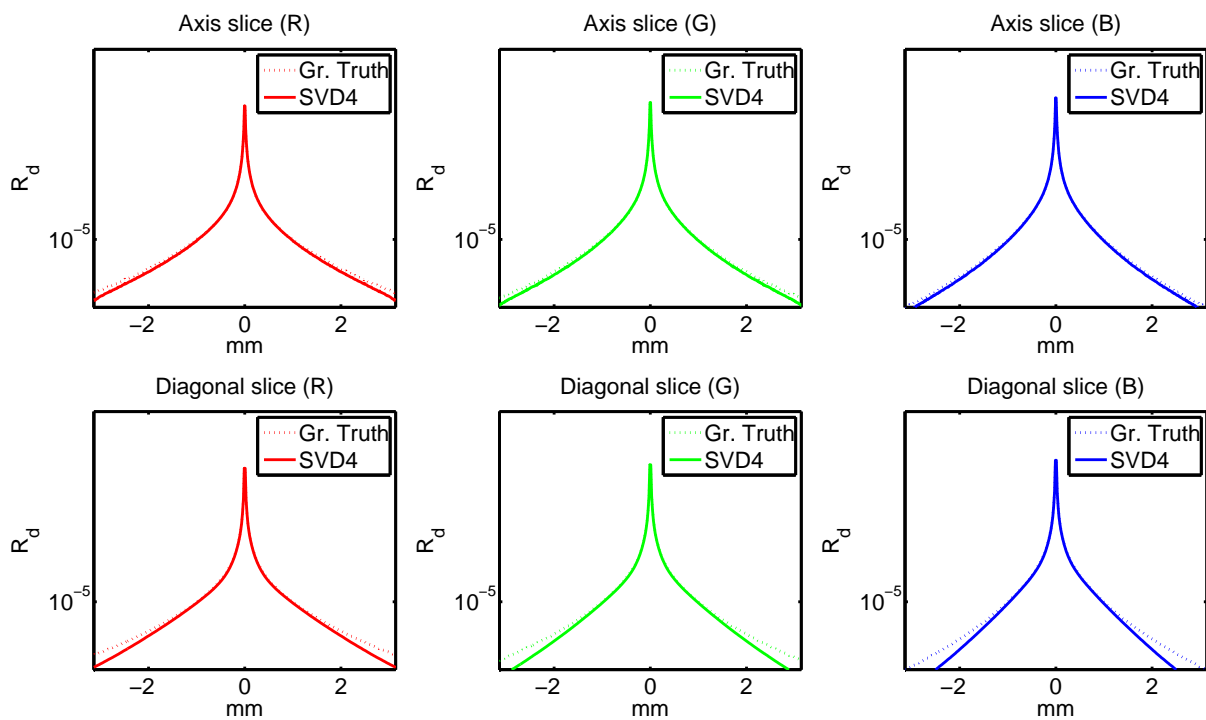


Figure S2.44: Wholemilk - SVD rank-4

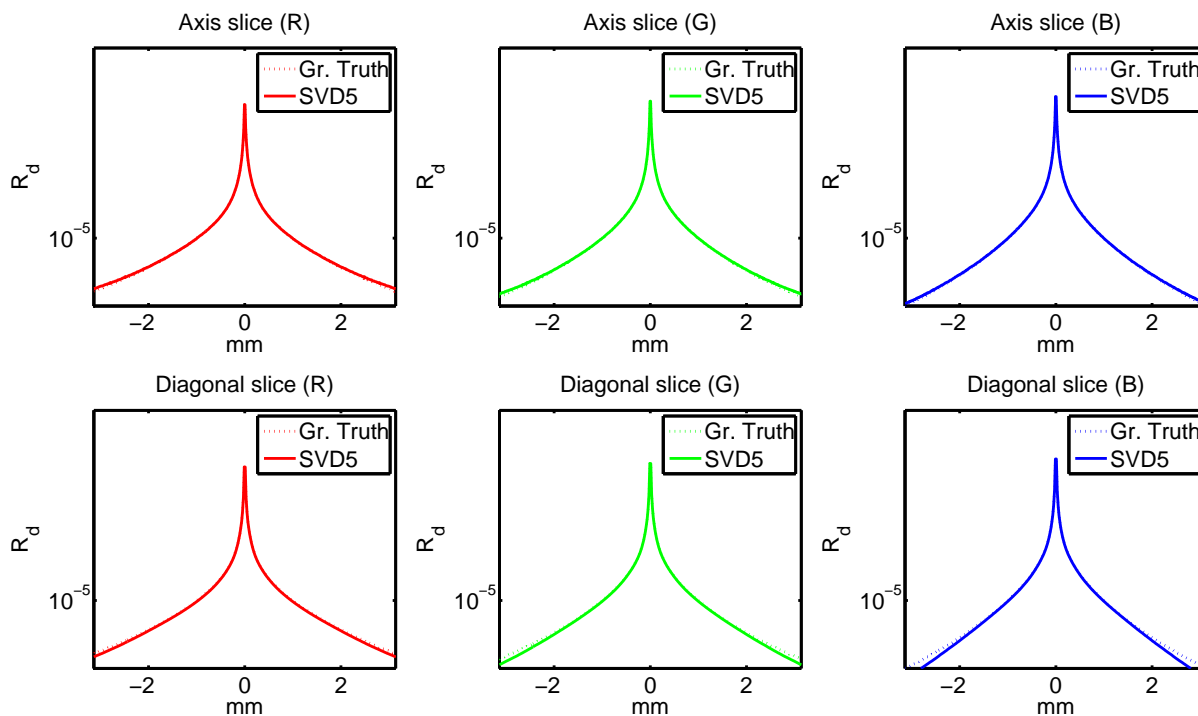


Figure S2.45: Wholemilk - SVD rank-5

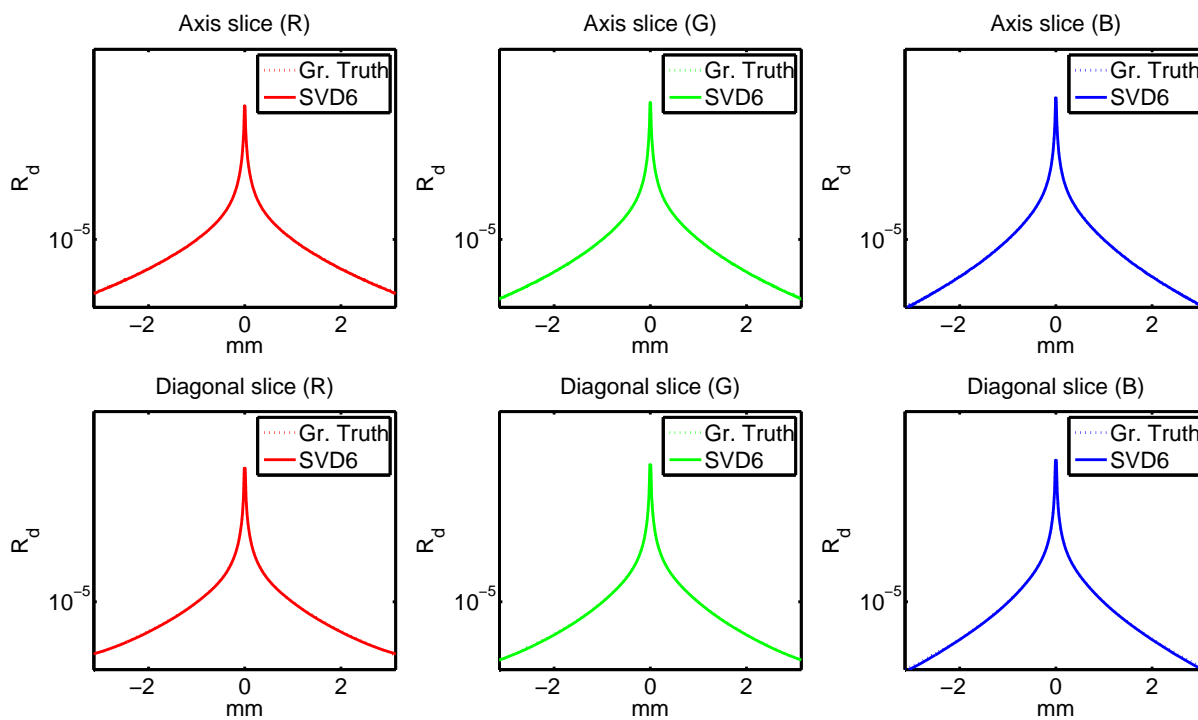


Figure S2.46: Wholemilk - SVD rank-6

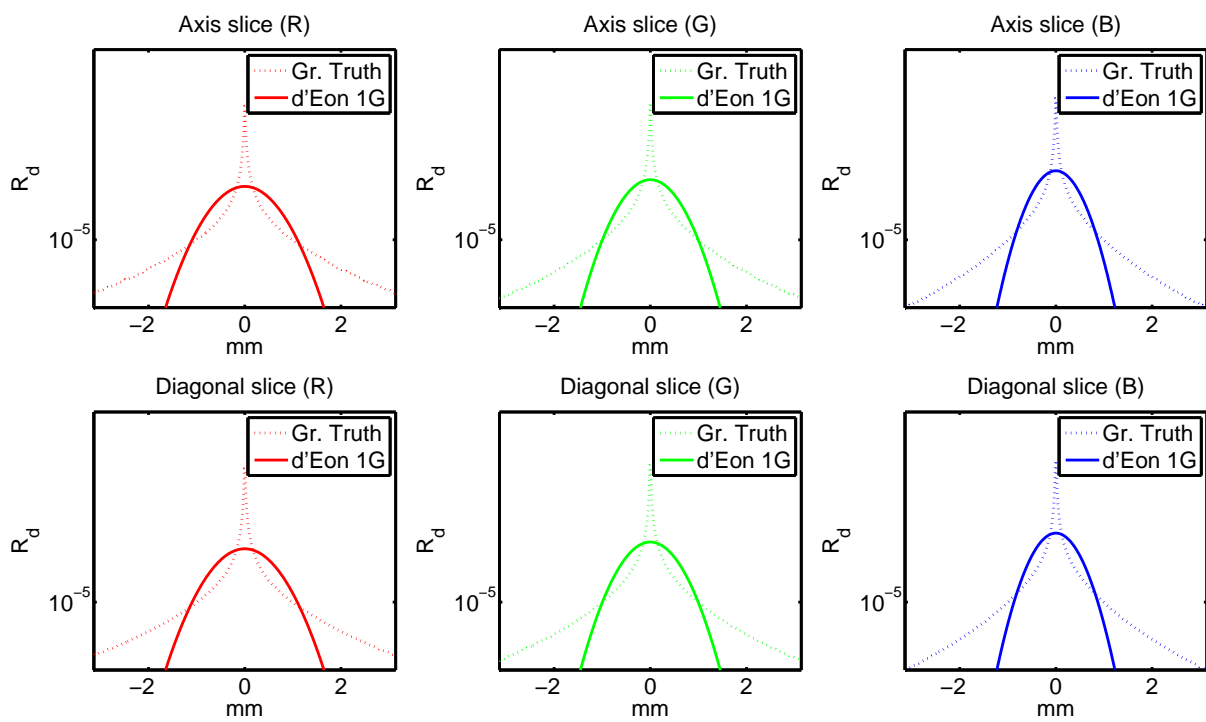


Figure S2.47: Wholemilk - d'Eon 1 Gaussian

J.3 d'Eon

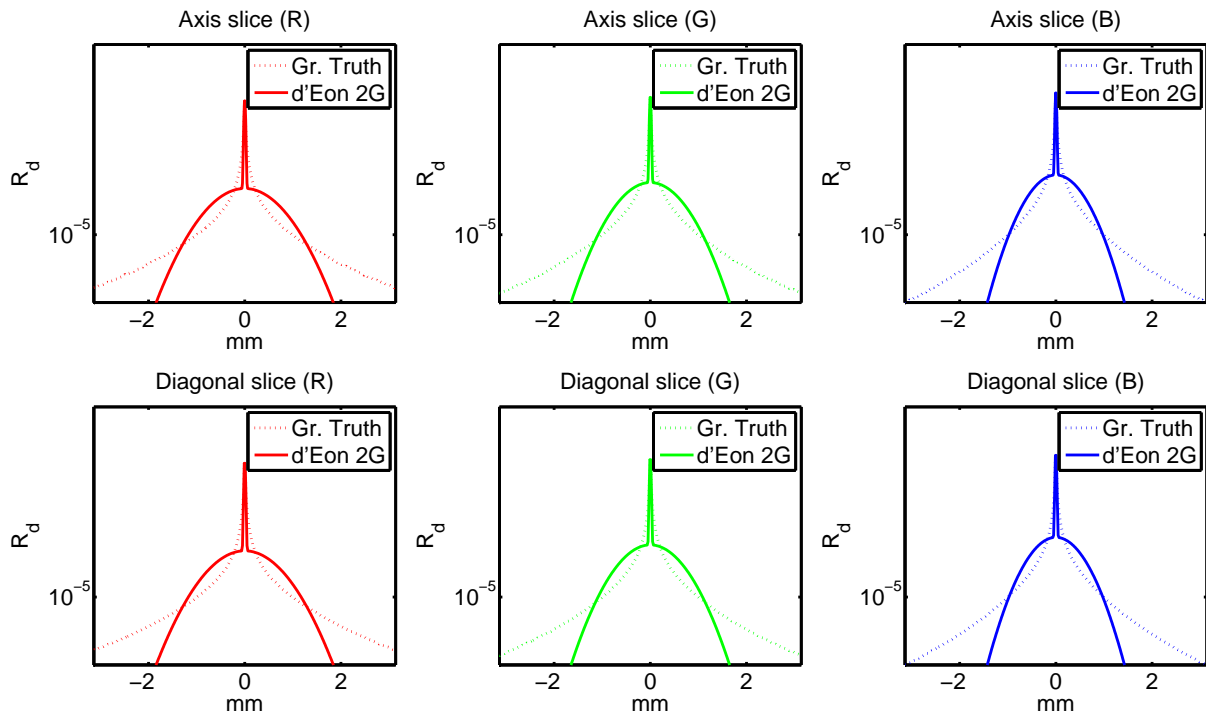


Figure S2.48: Wholemilk - d'Eon 2 Gaussian

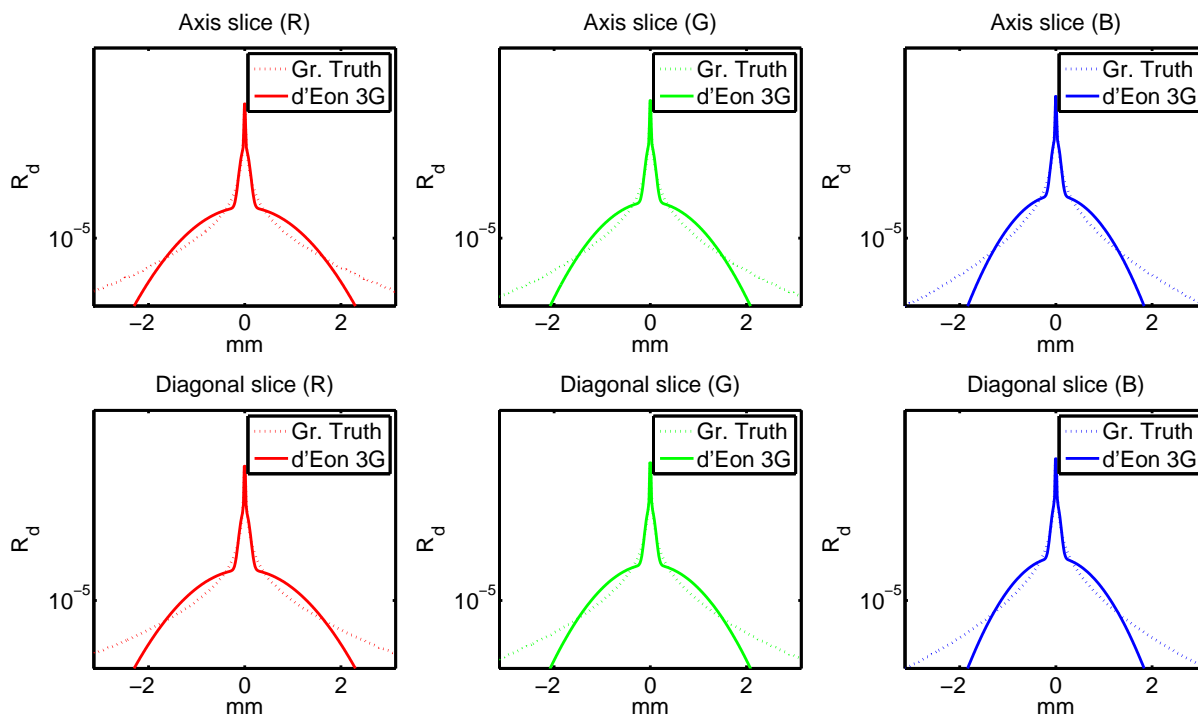


Figure S2.49: Wholemilk - d'Eon 3 Gaussian

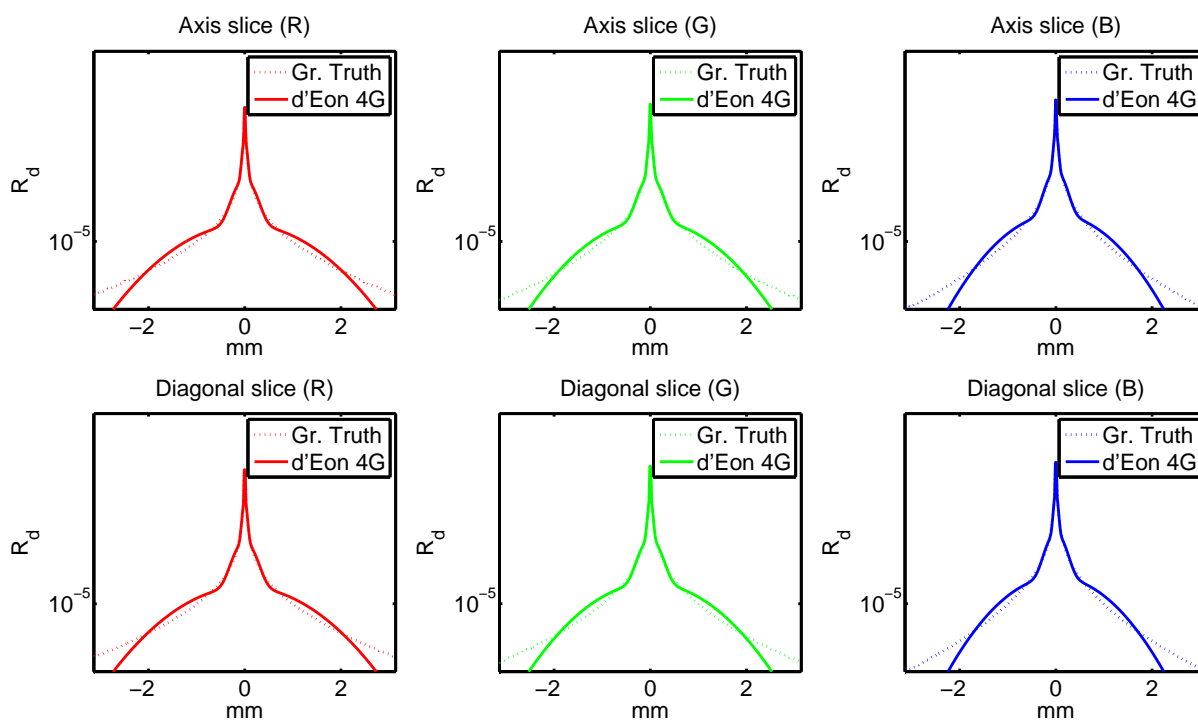


Figure S2.50: Wholemilk - d'Eon 4 Gaussian

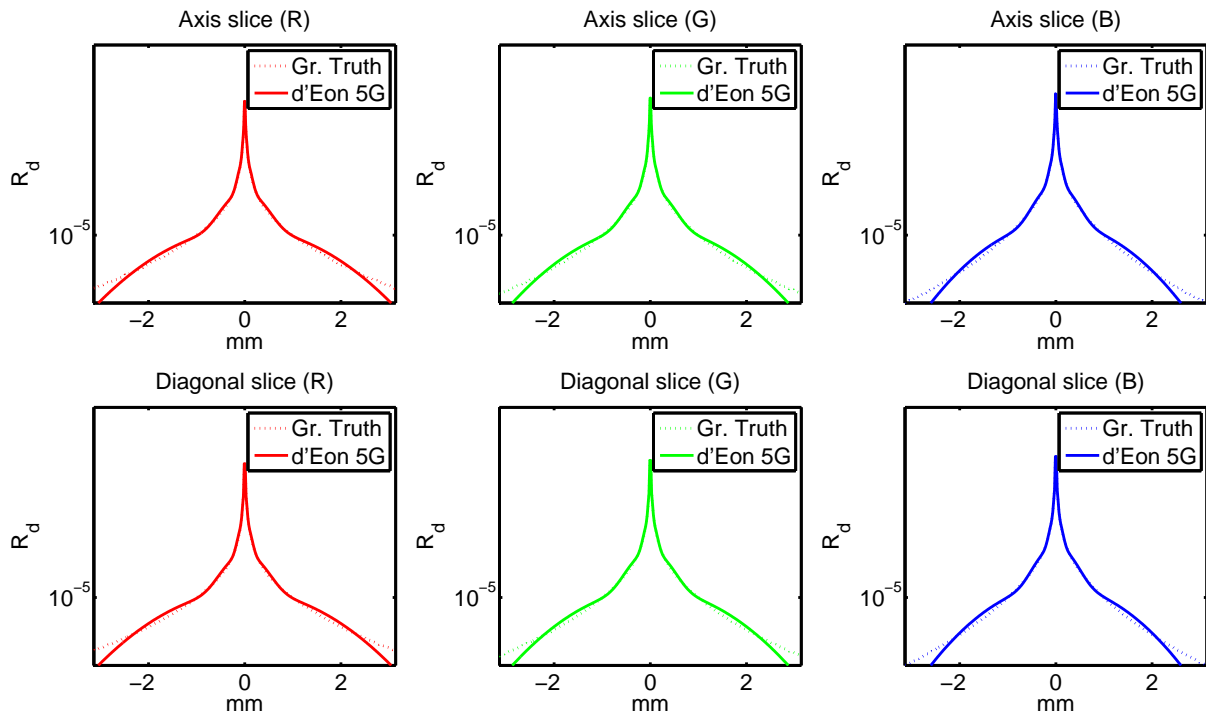


Figure S2.51: Wholemilk - d'Eon 5 Gaussian

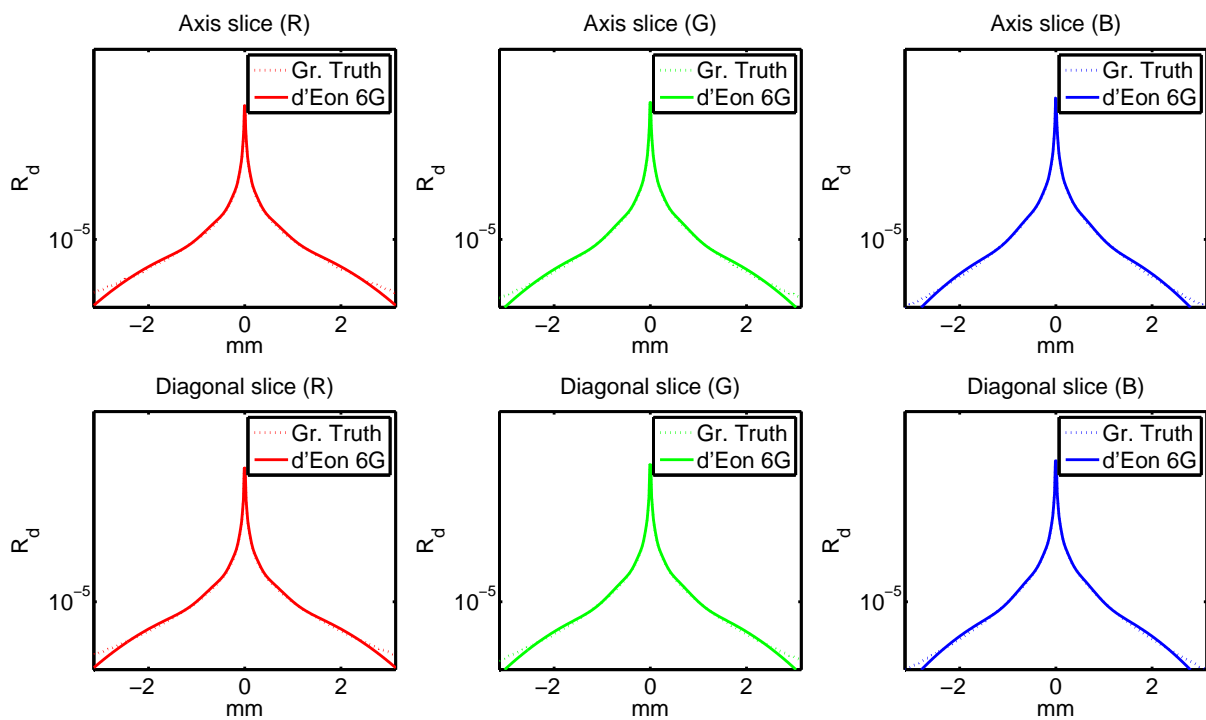


Figure S2.52: Wholemilk - d'Eon 6 Gaussian

K Ketchup

K.1 Rank-1

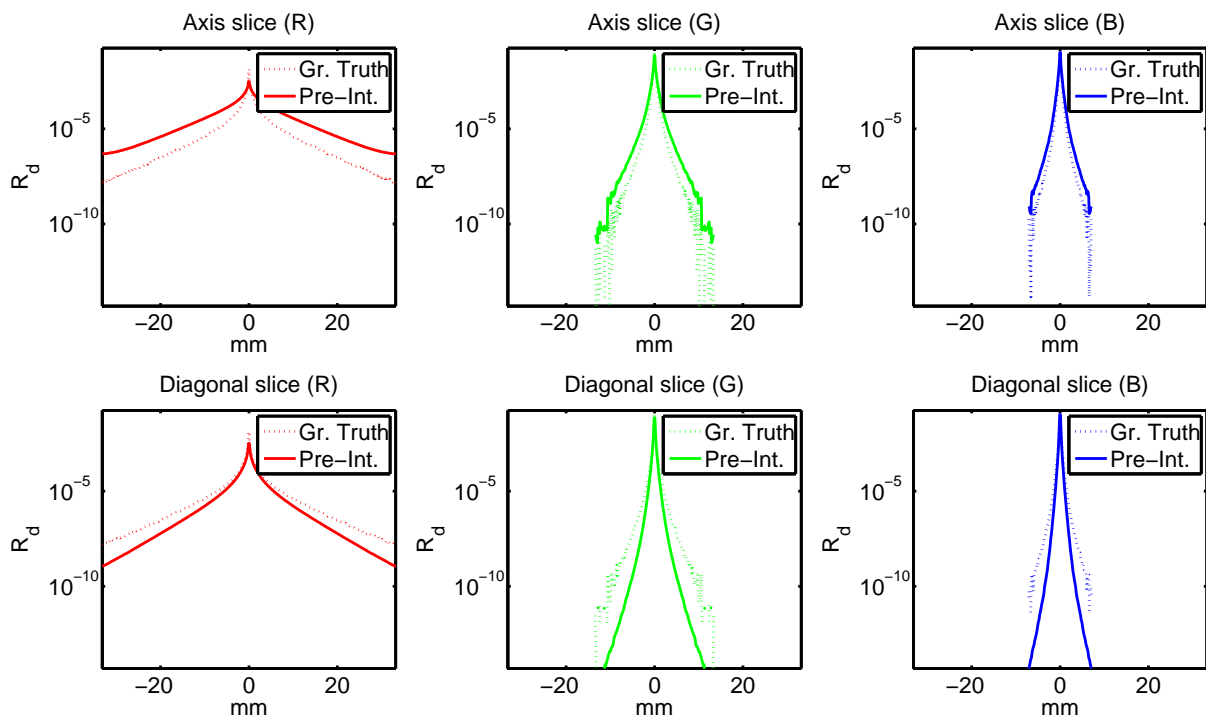


Figure S2.53: Ketchup - Kernel pre-integration

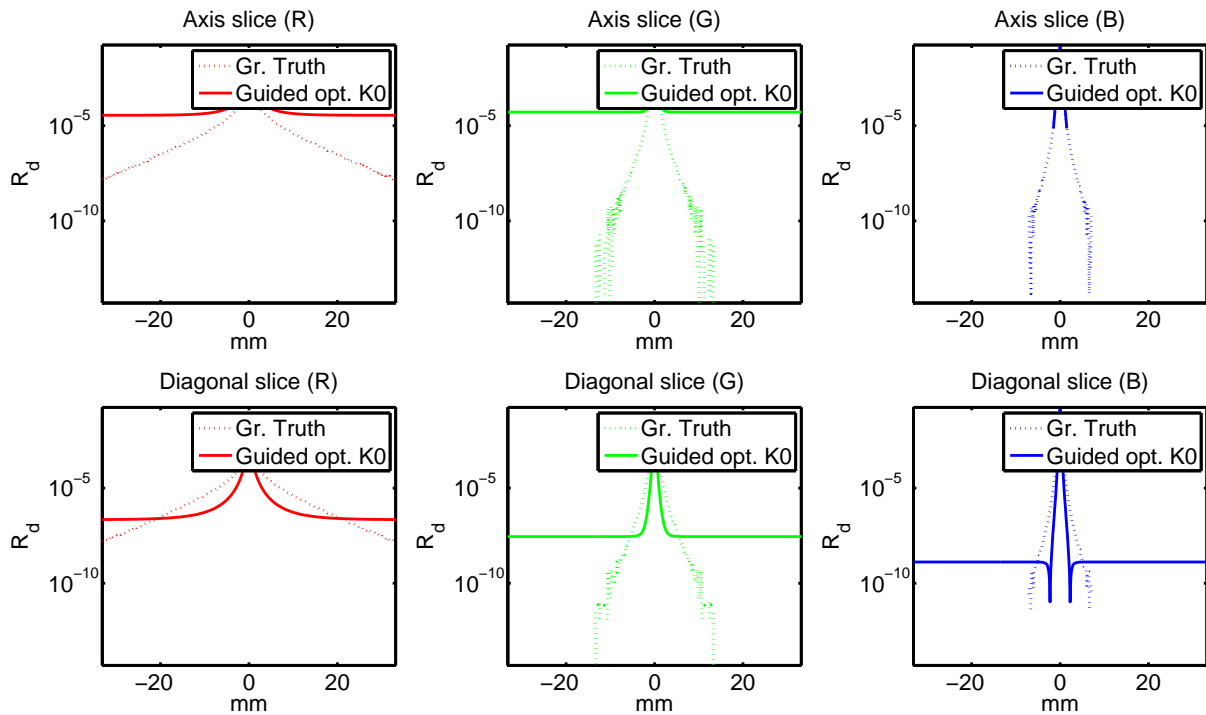


Figure S2.54: Ketchup - Guided optimization, $k=0$

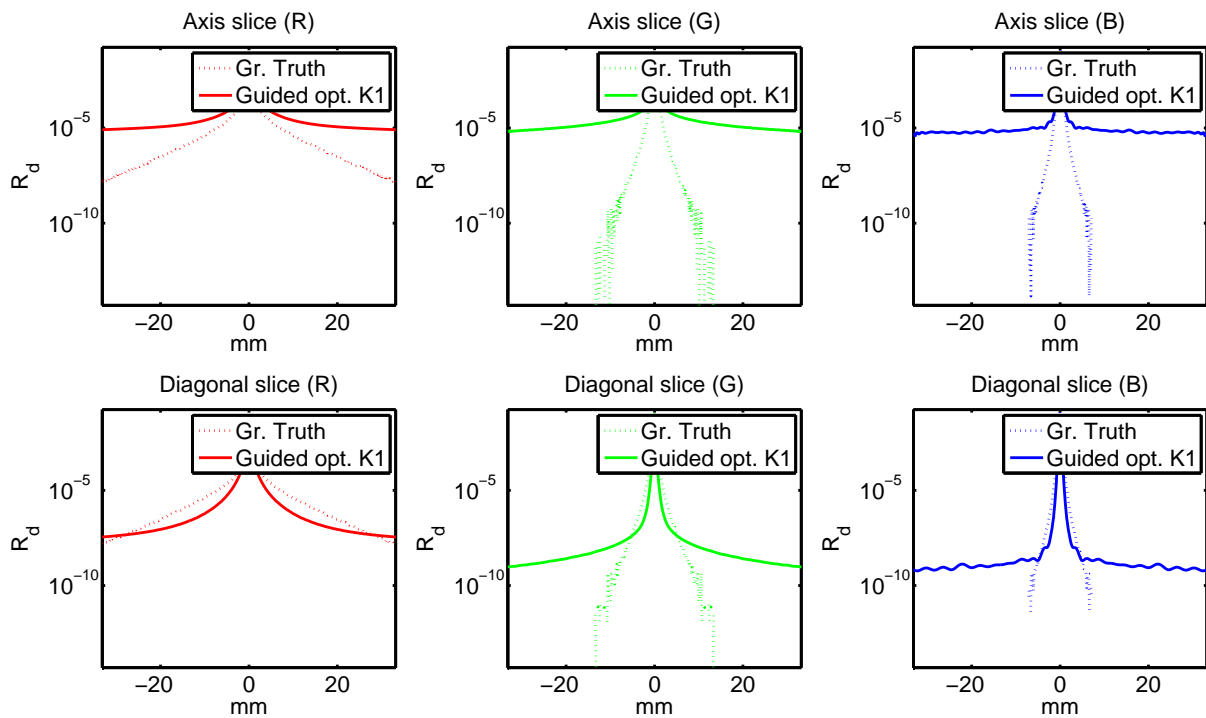


Figure S2.55: Ketchup - Guided optimization, $k=1$

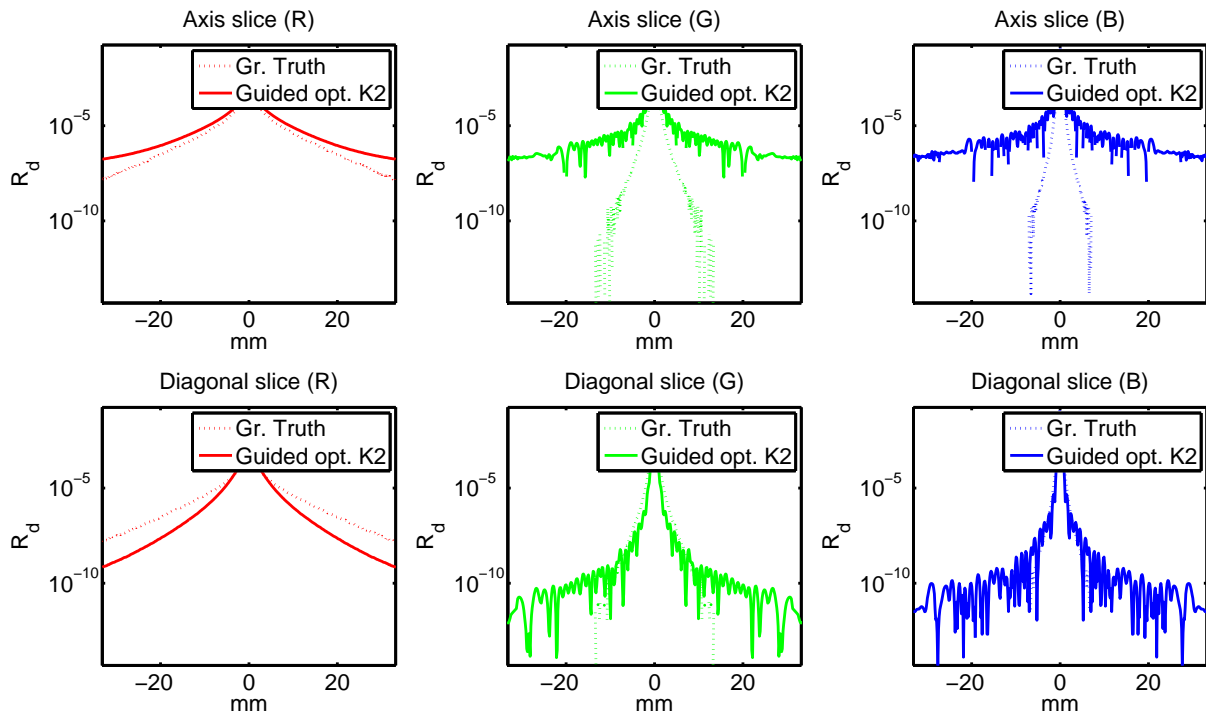


Figure S2.56: Ketchup - Guided optimization, $k=2$

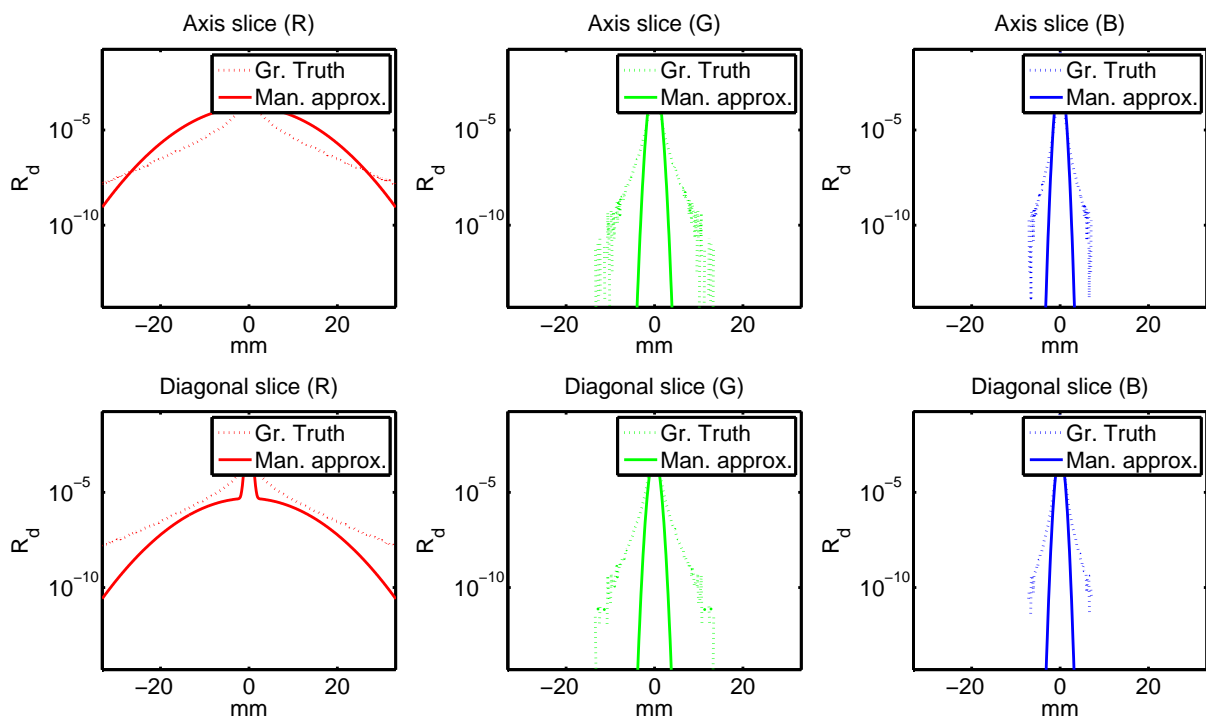


Figure S2.57: Ketchup - Manual approximation

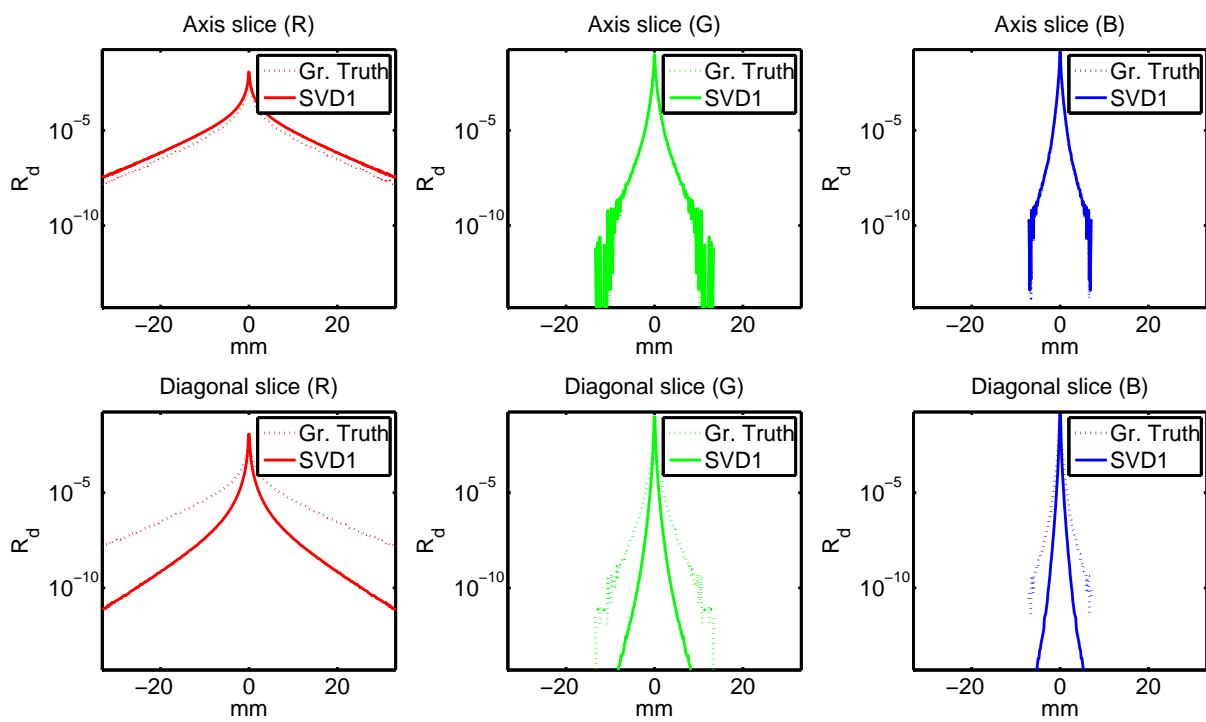


Figure S2.58: Ketchup - SVD rank-1

K.2 SVD

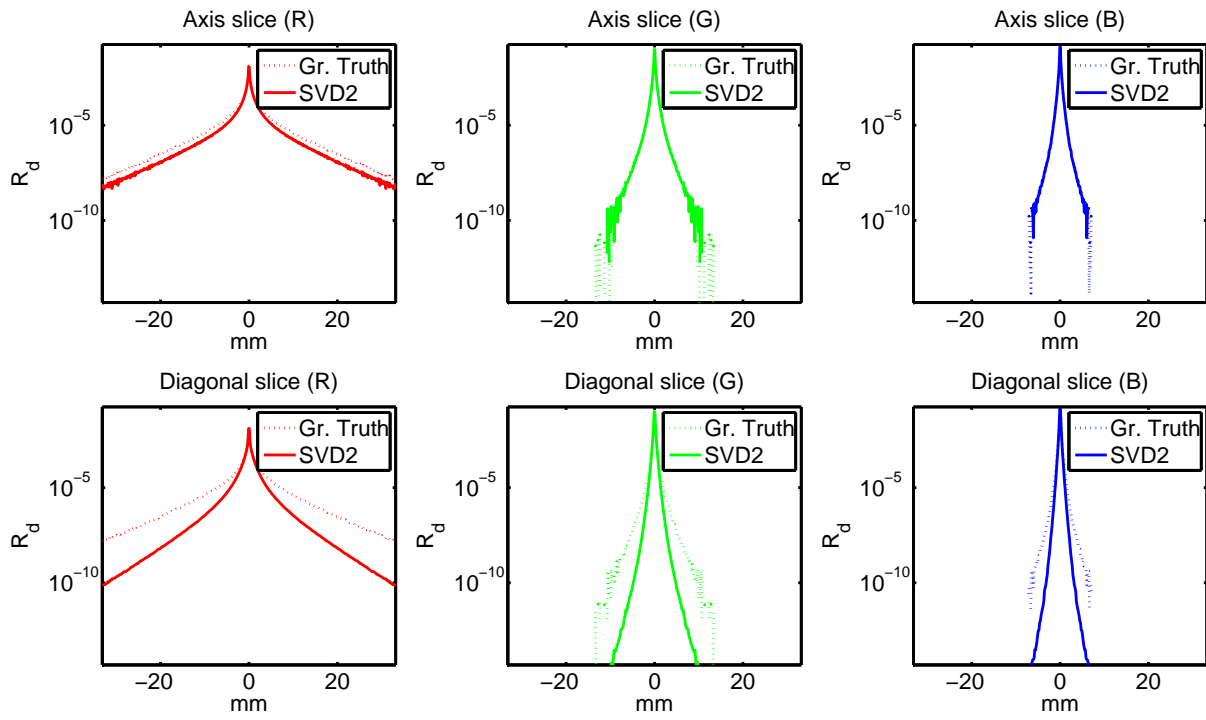


Figure S2.59: Ketchup - SVD rank-2

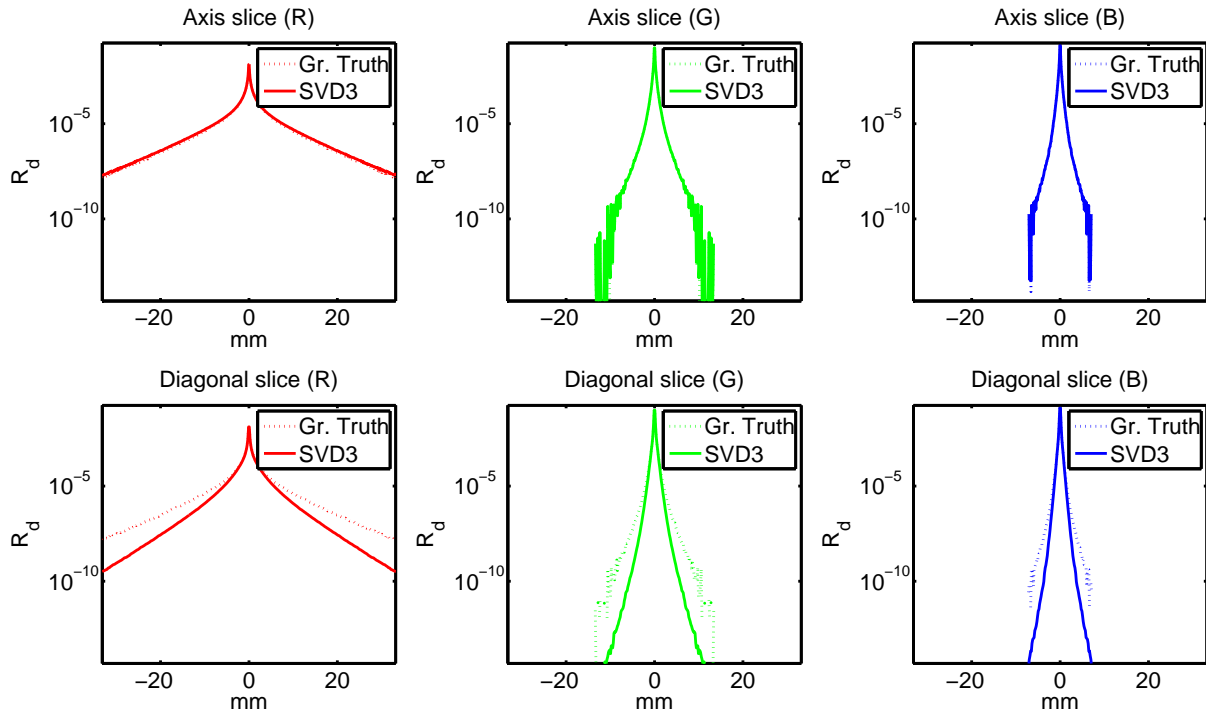


Figure S2.60: Ketchup - SVD rank-3

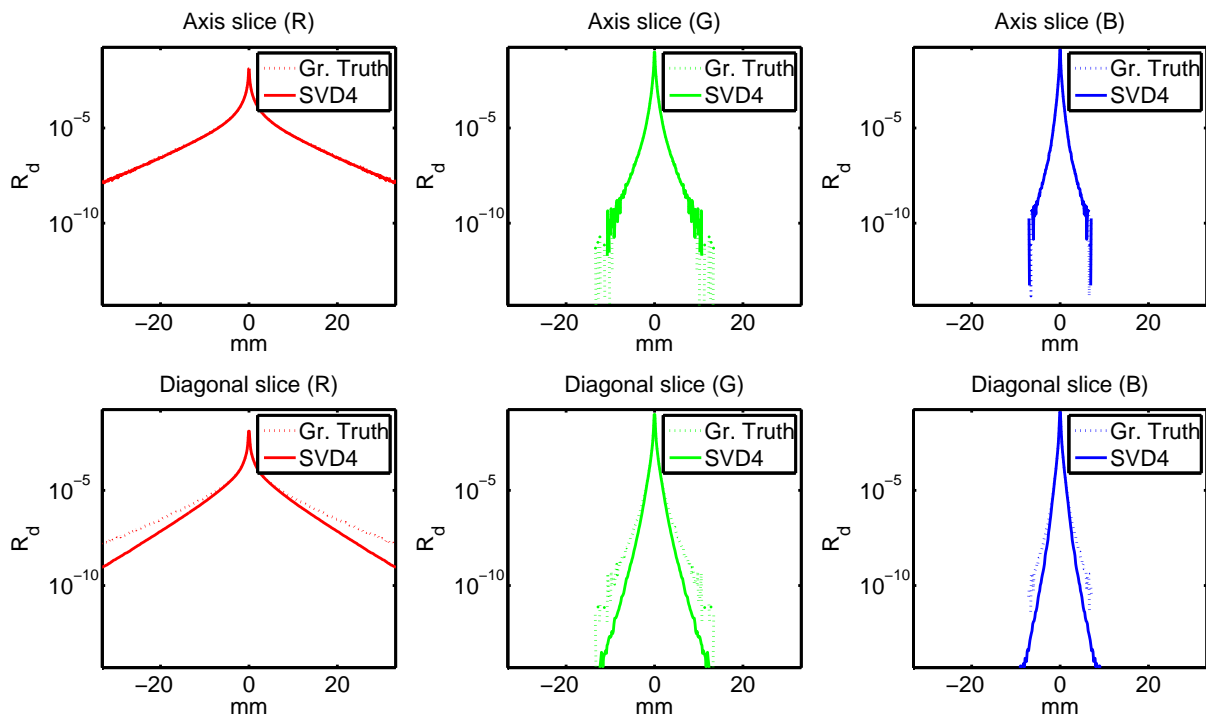


Figure S2.61: Ketchup - SVD rank-4

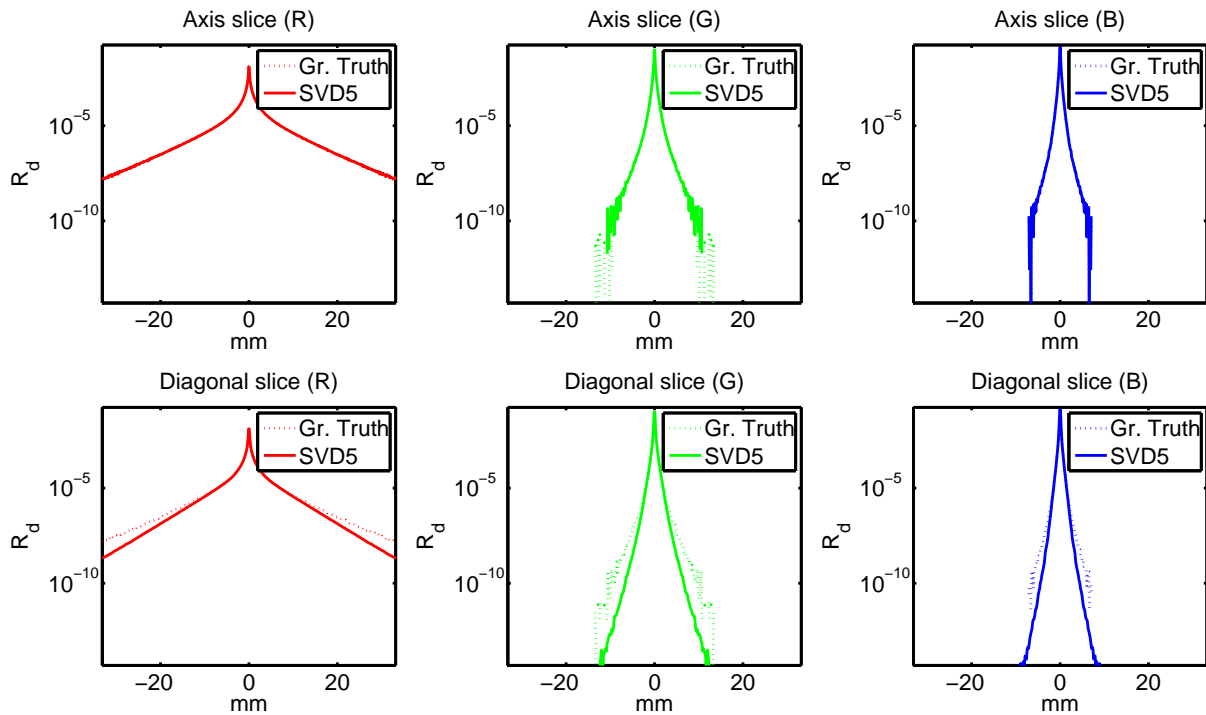


Figure S2.62: Ketchup - SVD rank-5

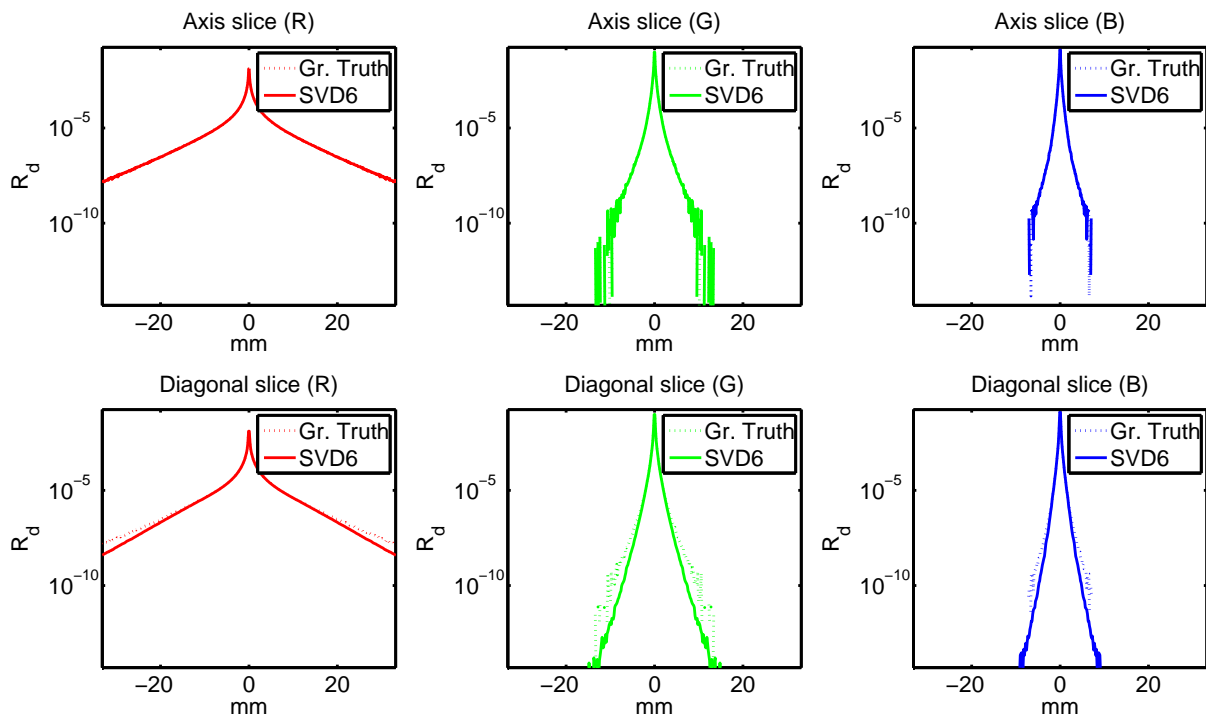


Figure S2.63: Ketchup - SVD rank-6

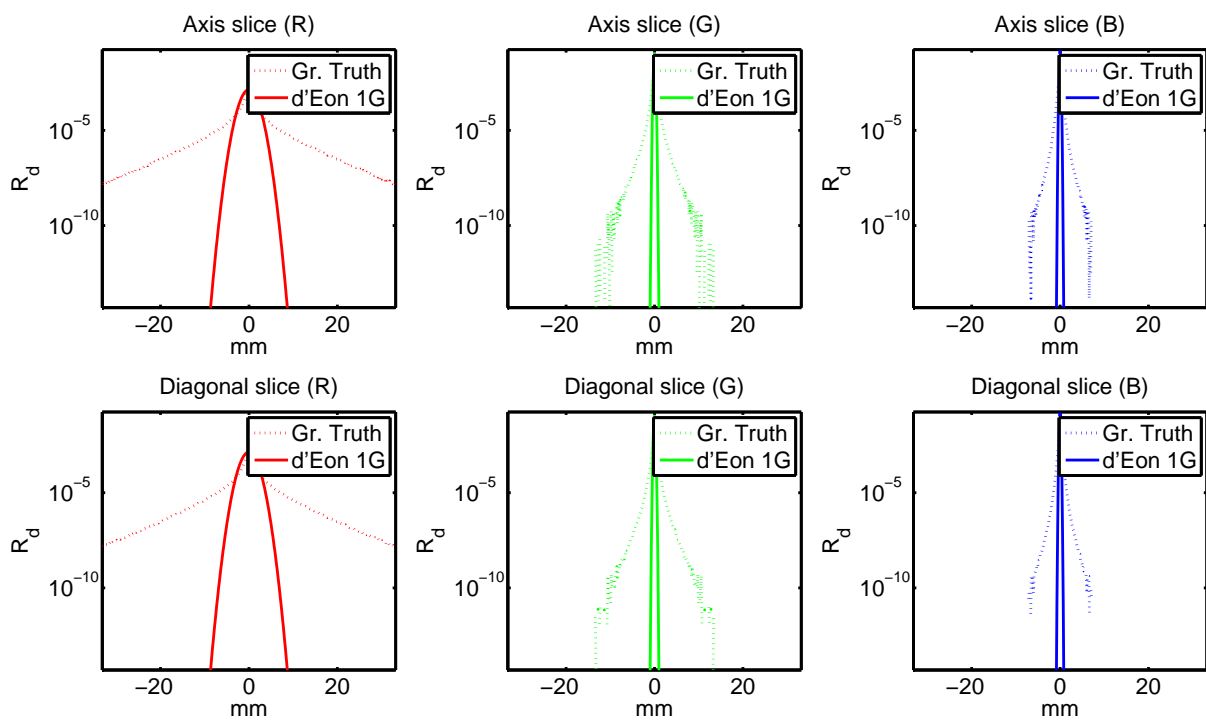


Figure S2.64: Ketchup - d'Eon 1 Gaussian

K.3 d'Eon

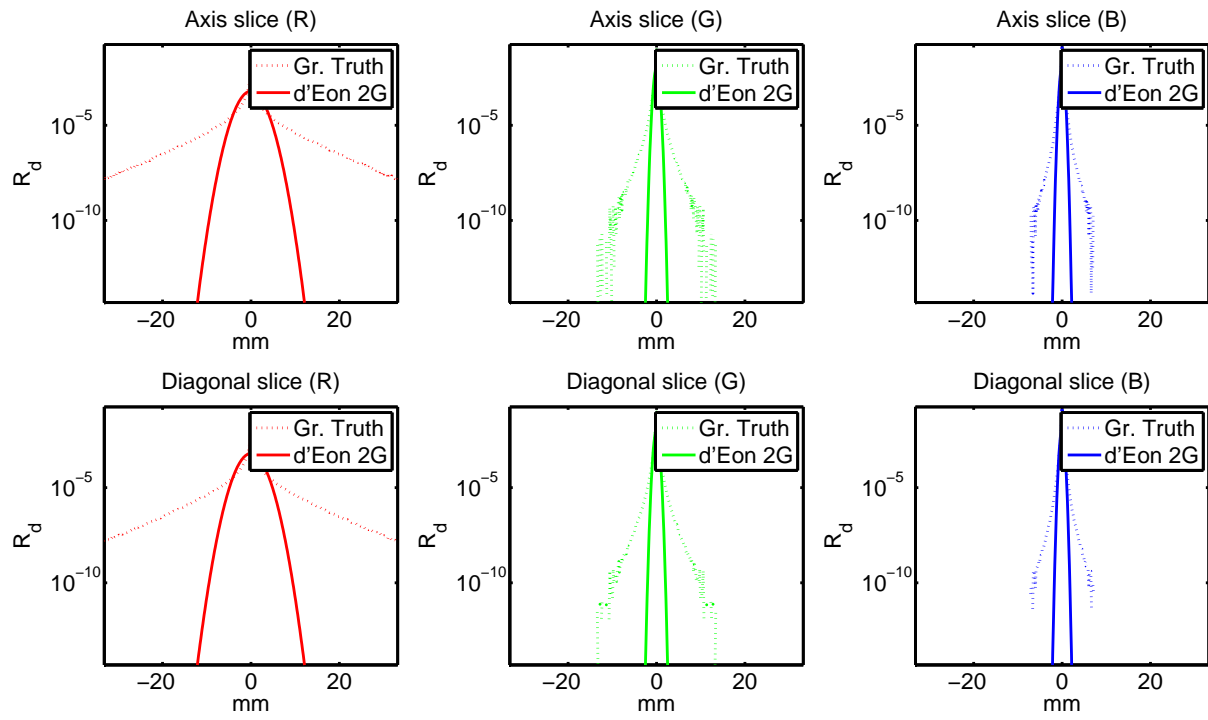


Figure S2.65: Ketchup - d'Eon 2 Gaussian

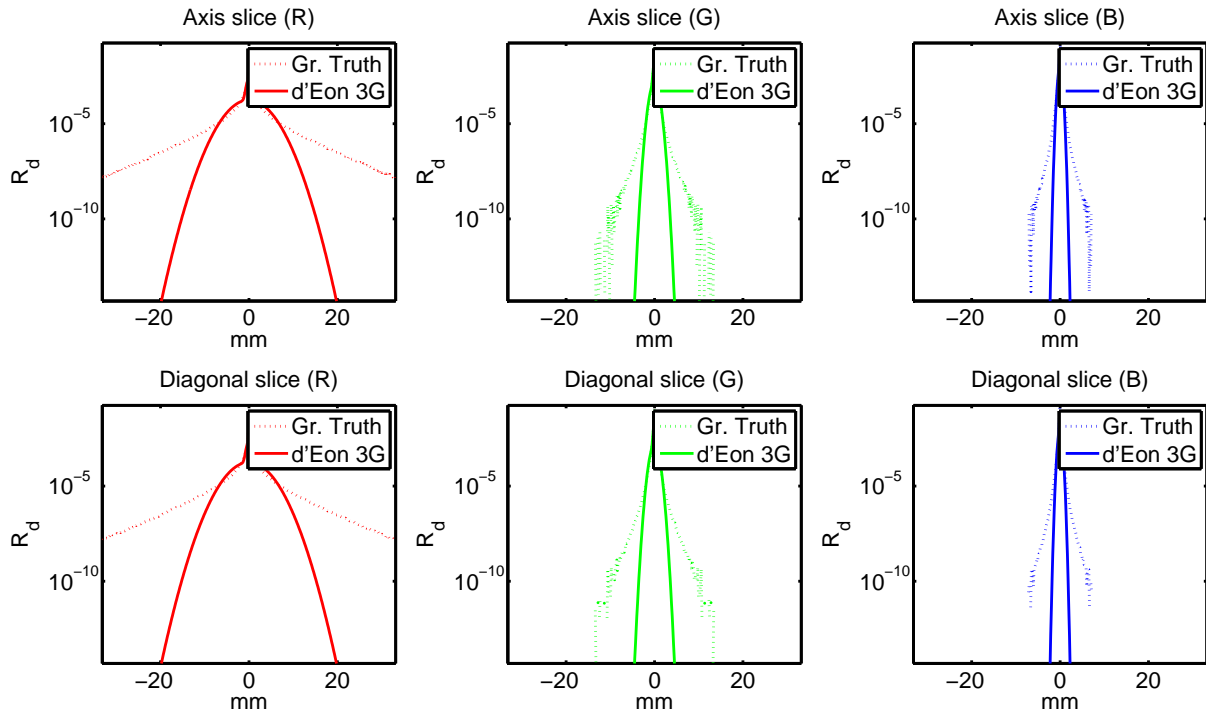


Figure S2.66: Ketchup - d'Eon 3 Gaussian

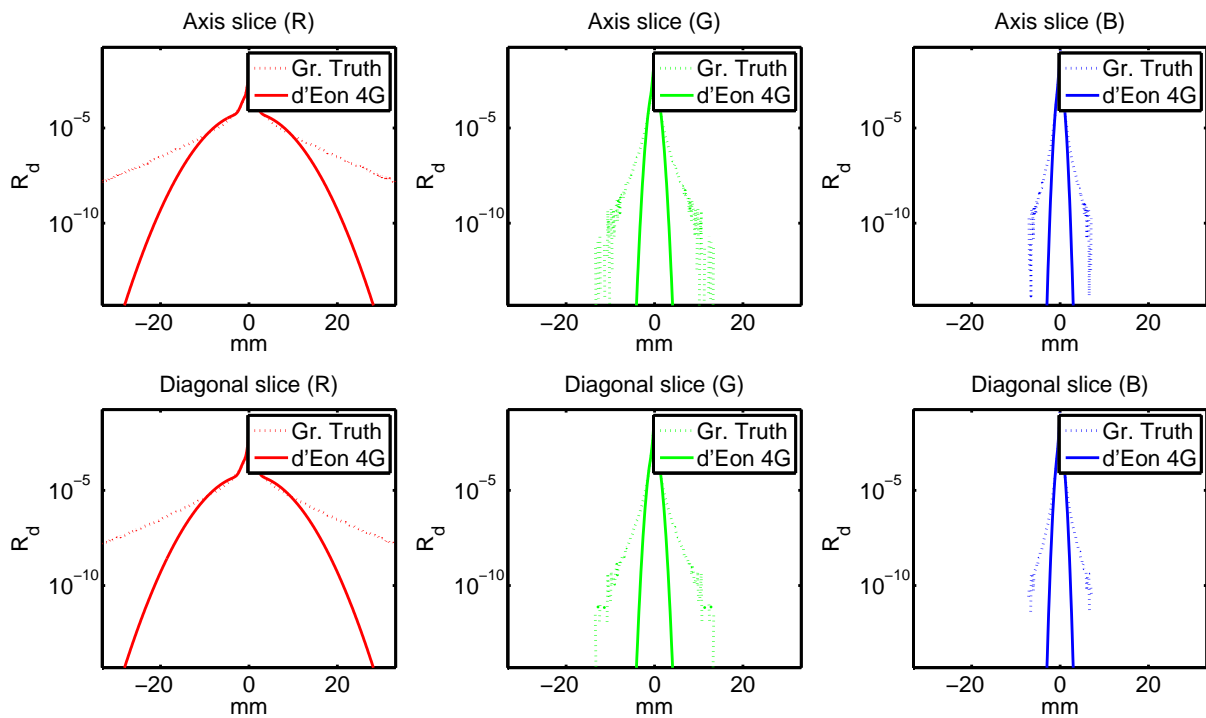


Figure S2.67: Ketchup - d'Eon 4 Gaussian

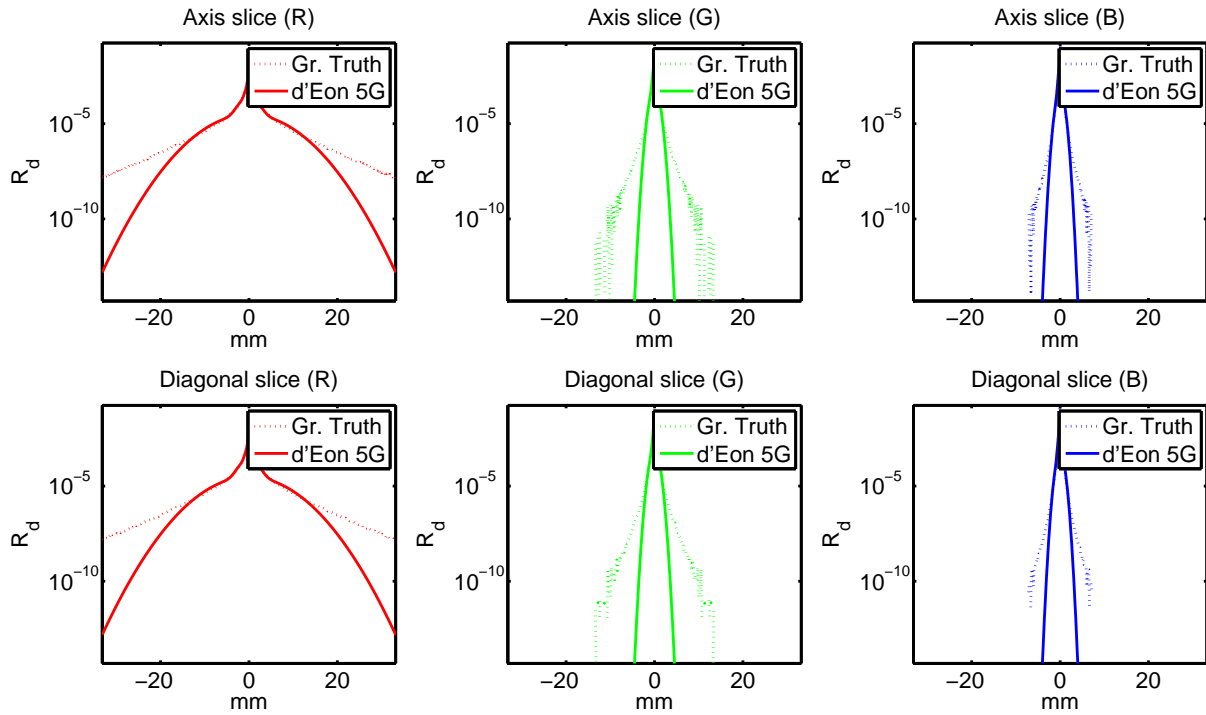


Figure S2.68: Ketchup - d'Eon 5 Gaussian

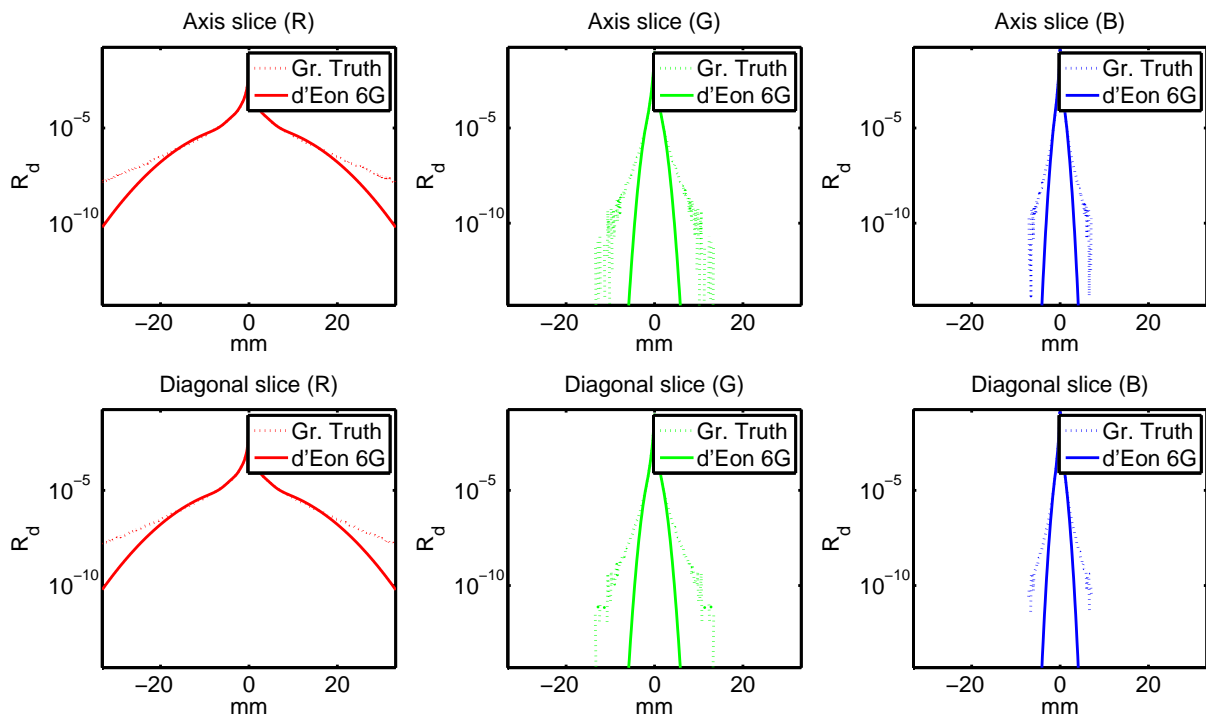


Figure S2.69: Ketchup - d'Eon 6 Gaussian

L Apple

L.1 Rank-1

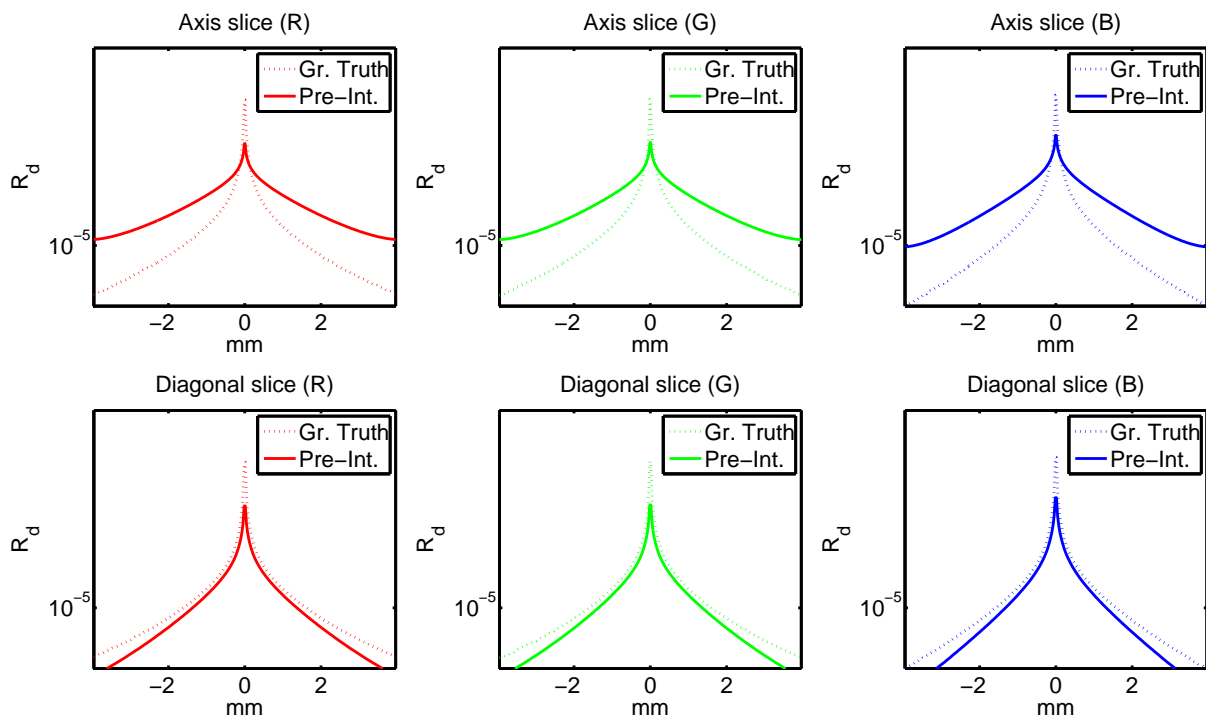


Figure S2.70: Apple - Kernel pre-integration

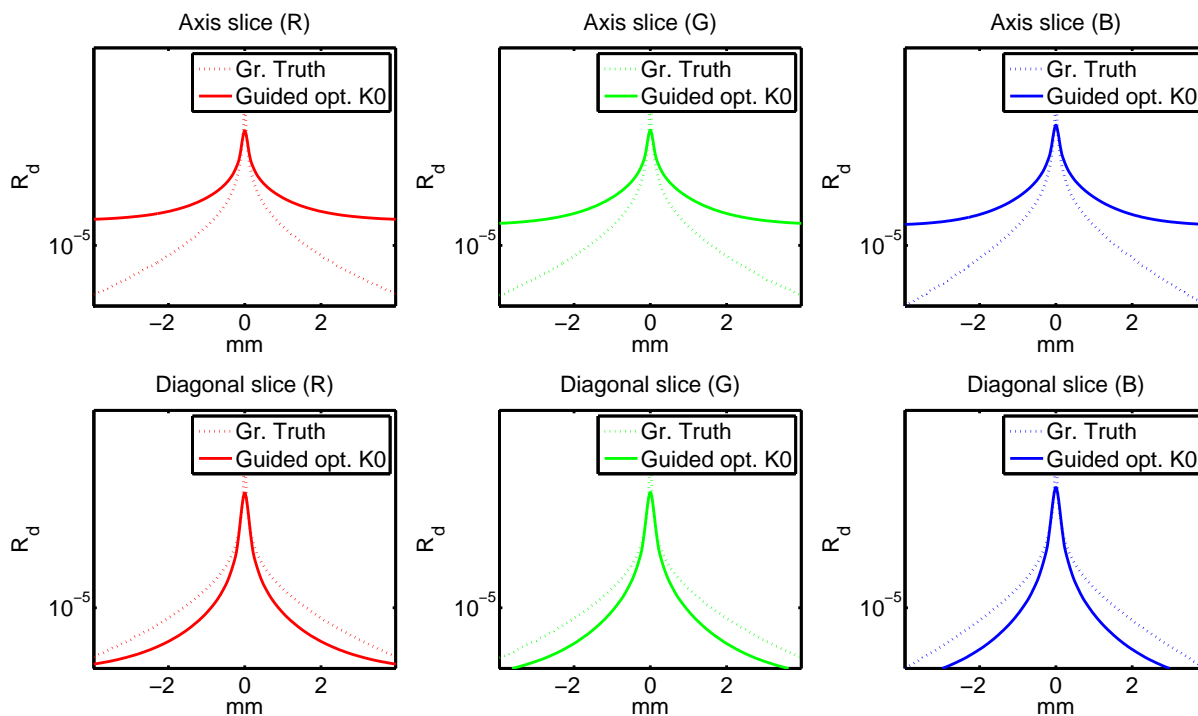


Figure S2.71: Apple - Guided optimization, k=0

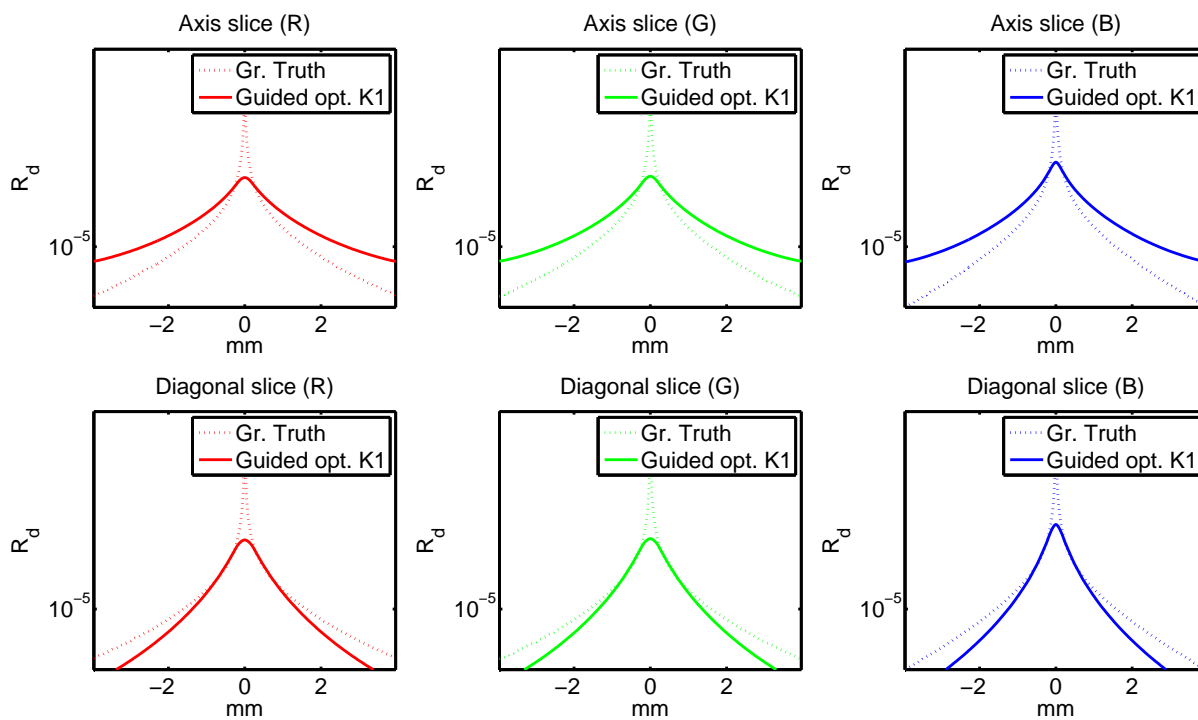


Figure S2.72: Apple - Guided optimization, k=1

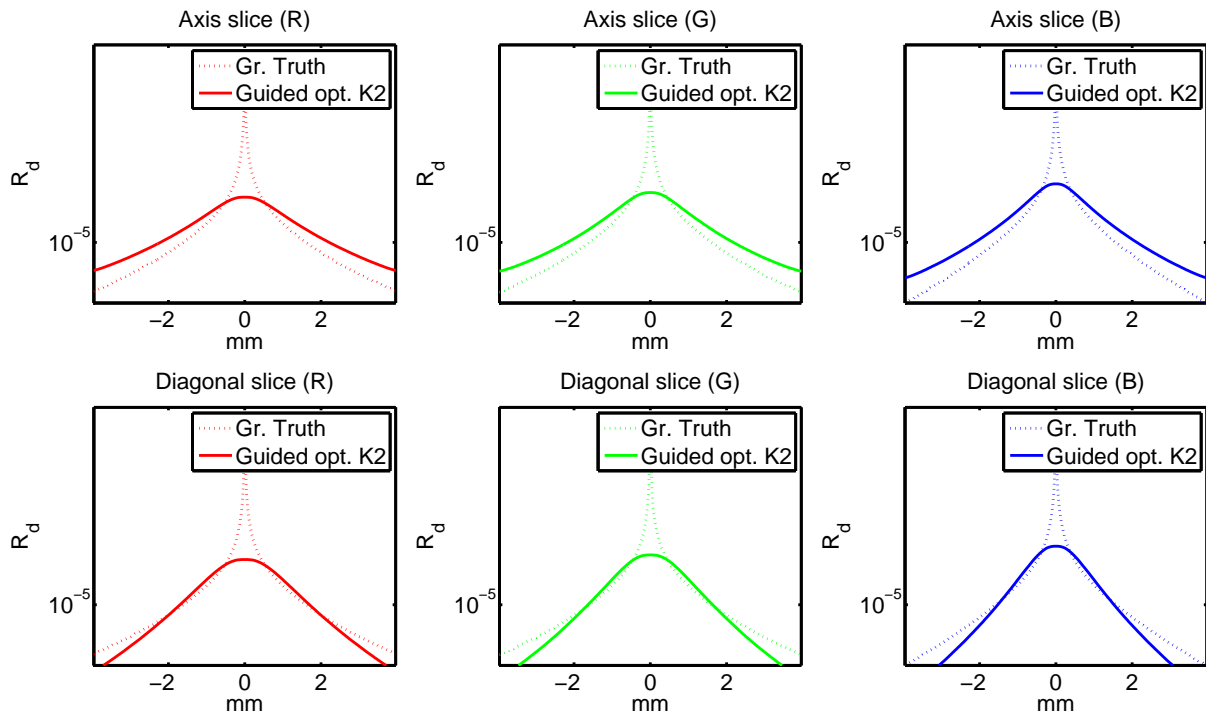


Figure S2.73: Apple - Guided optimization, k=2

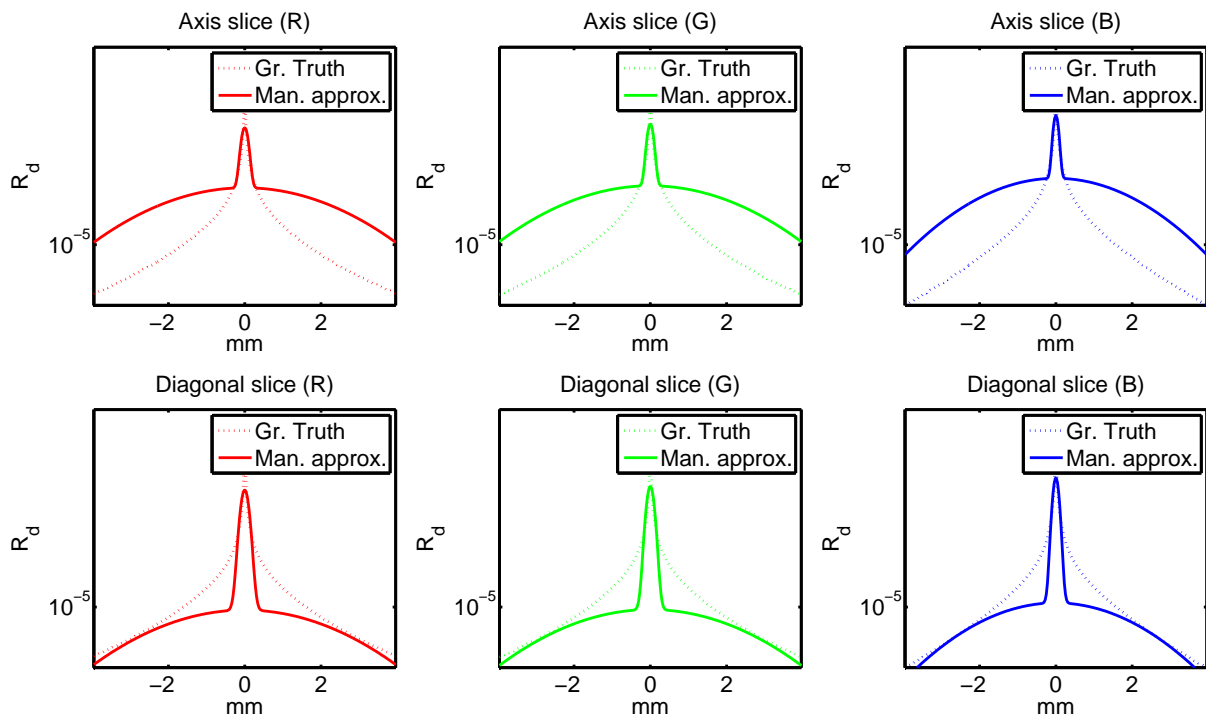


Figure S2.74: Apple - Manual approximation

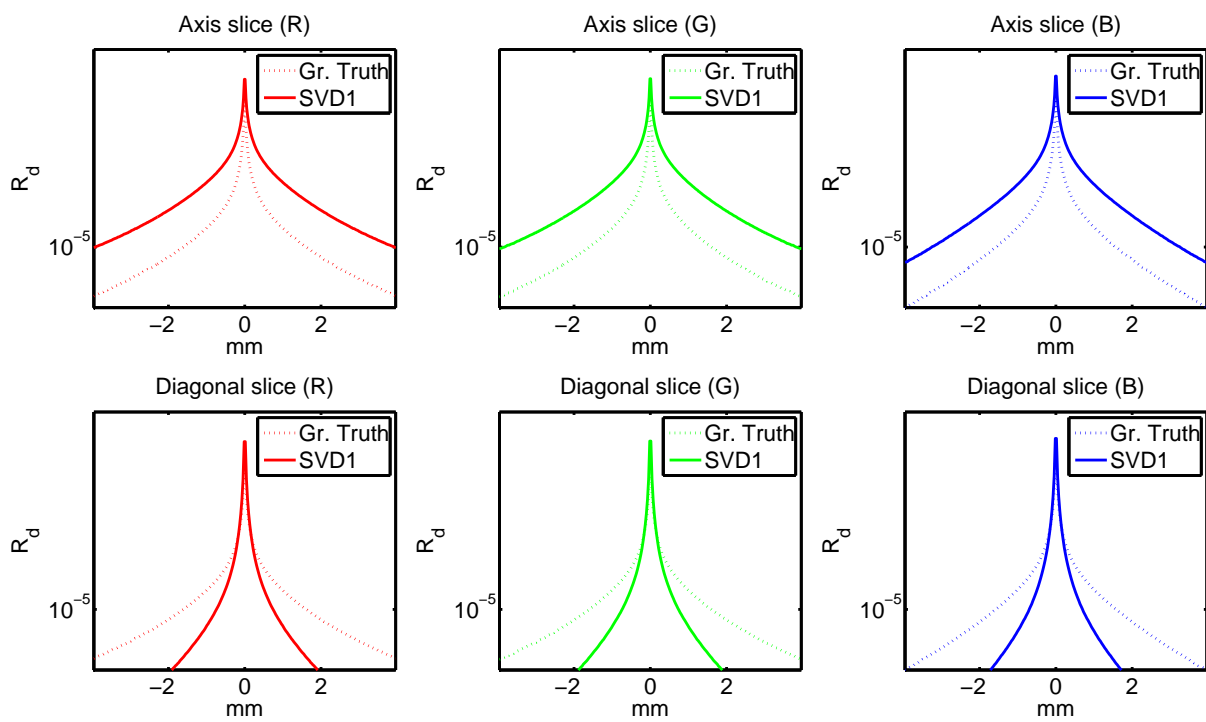


Figure S2.75: Apple - SVD rank-1

L.2 SVD

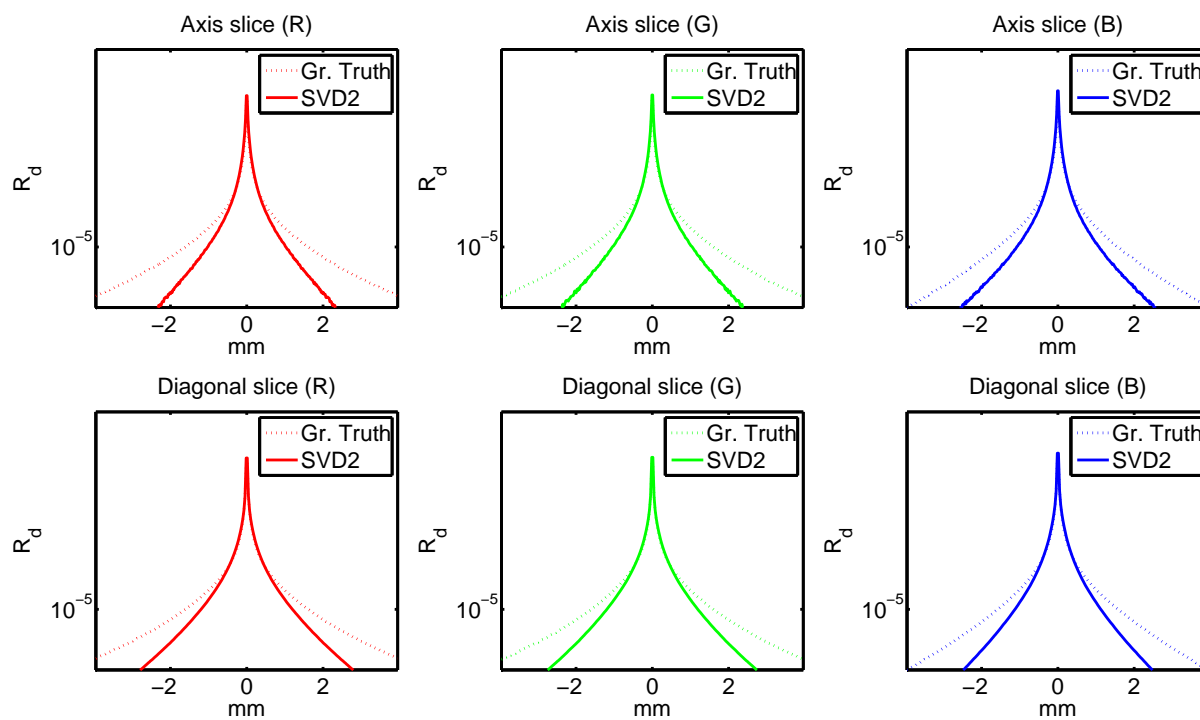


Figure S2.76: Apple - SVD rank-2

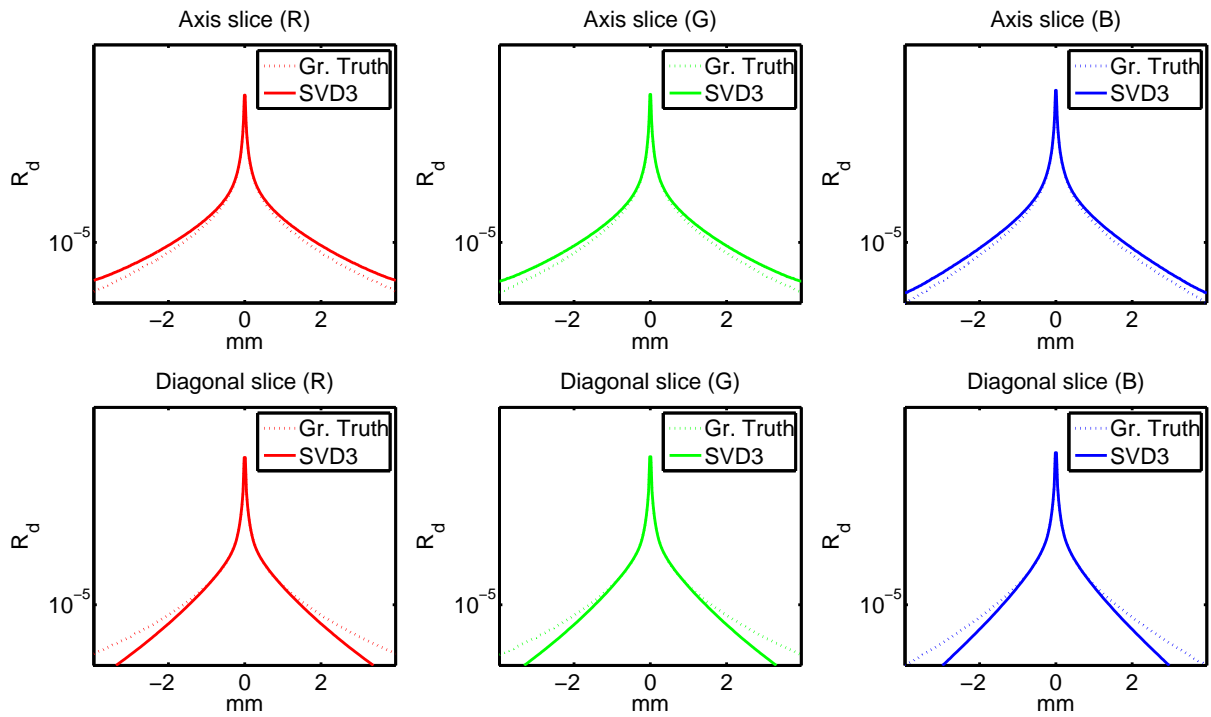


Figure S2.77: Apple - SVD rank-3

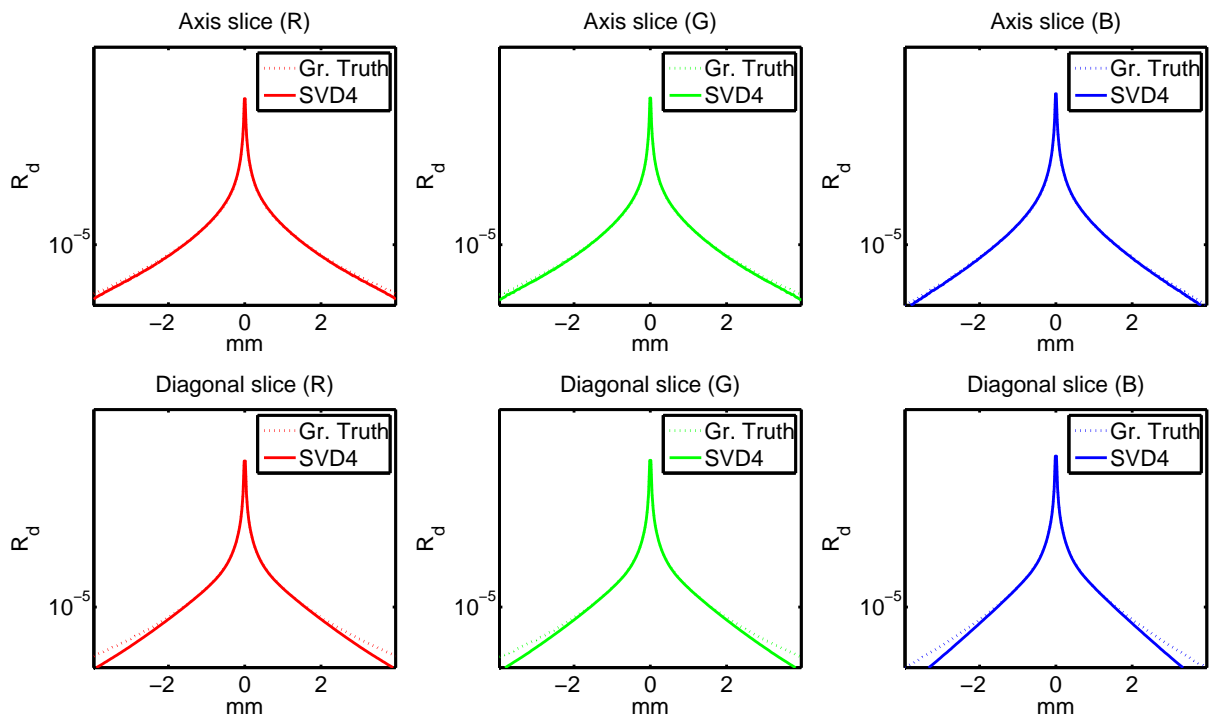


Figure S2.78: Apple - SVD rank-4

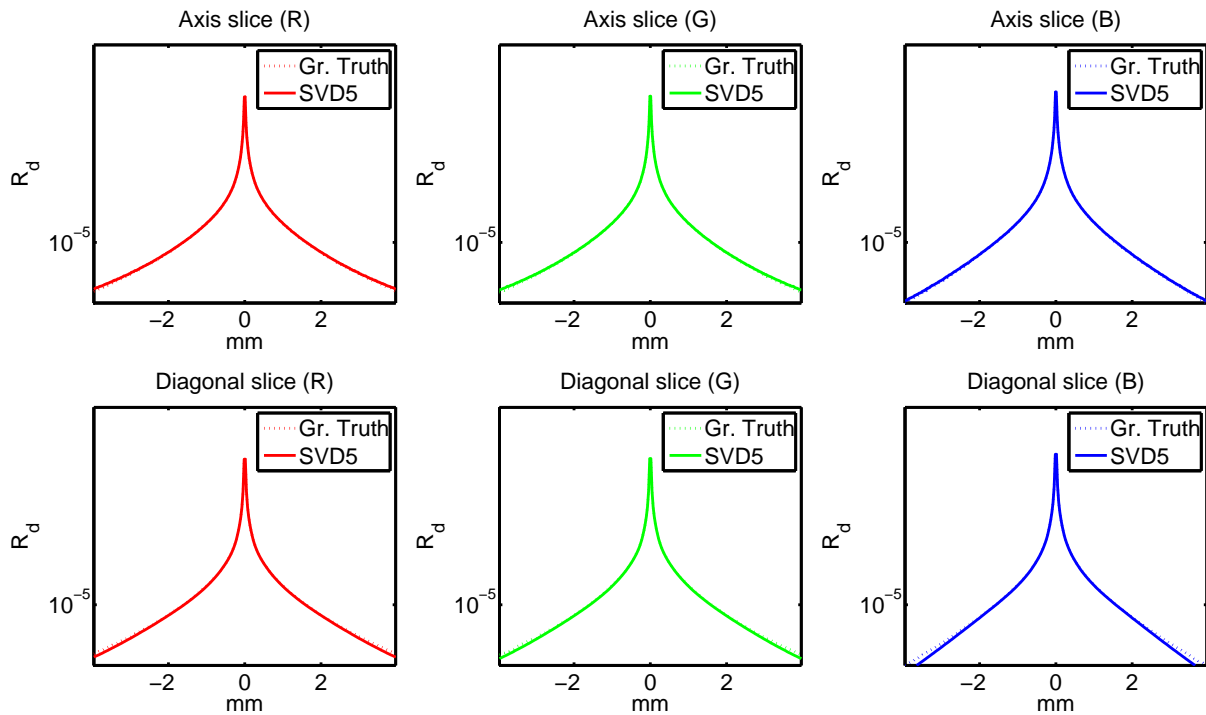


Figure S2.79: Apple - SVD rank-5

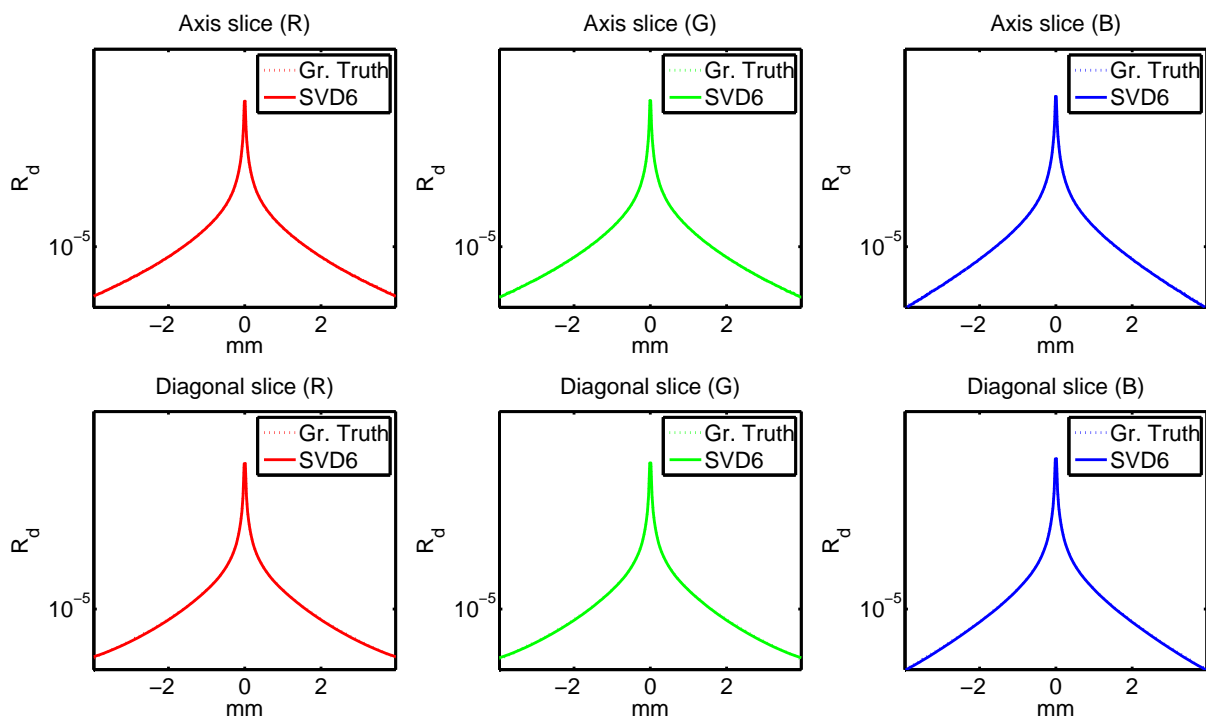


Figure S2.80: Apple - SVD rank-6

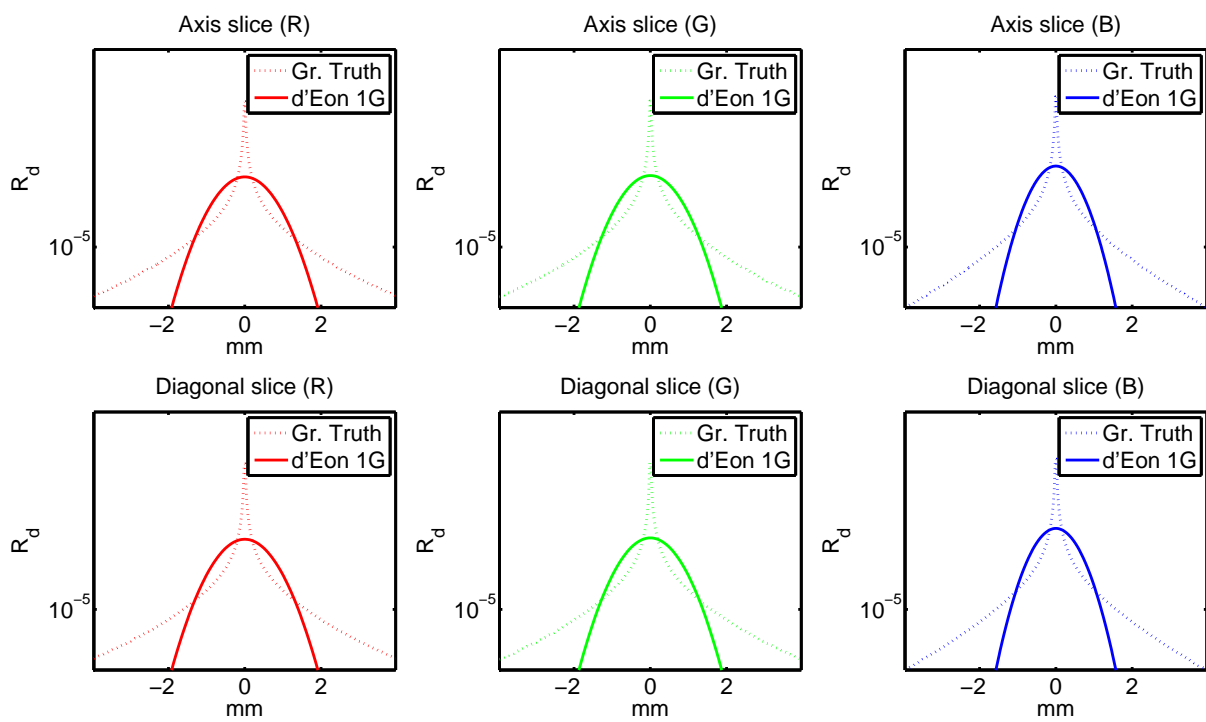


Figure S2.81: Apple - d'Eon 1 Gaussian

L.3 d'Eon

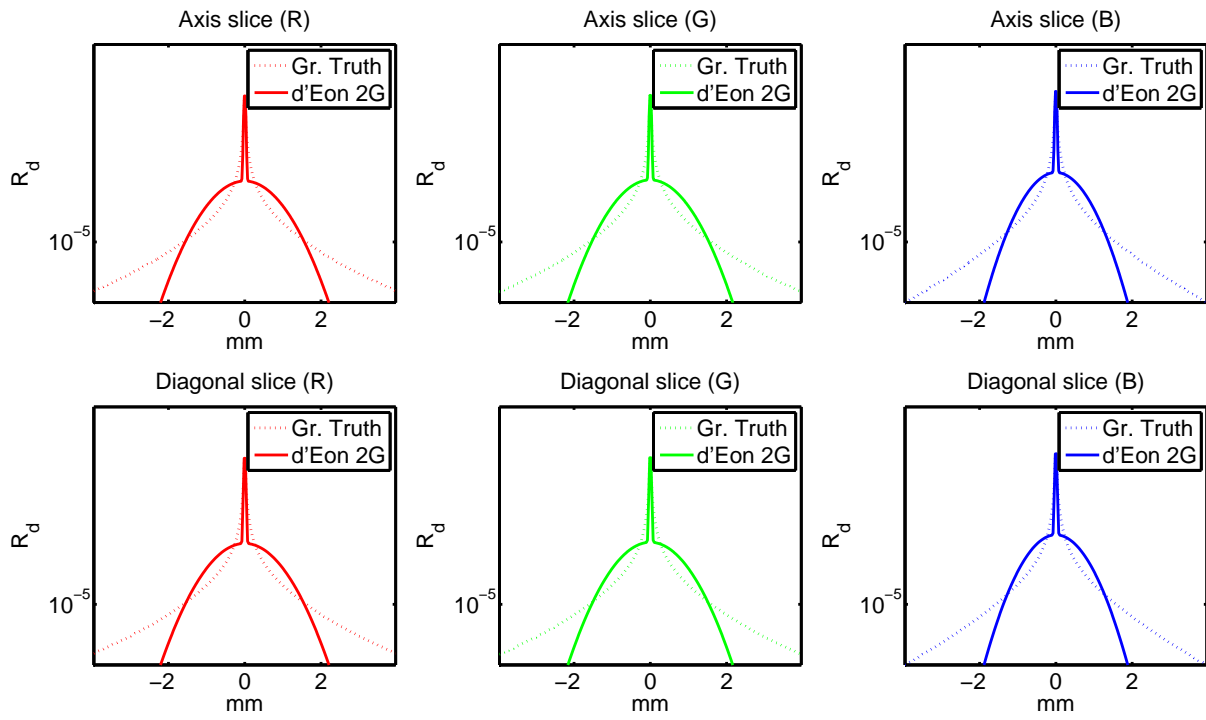


Figure S2.82: Apple - d'Eon 2 Gaussian

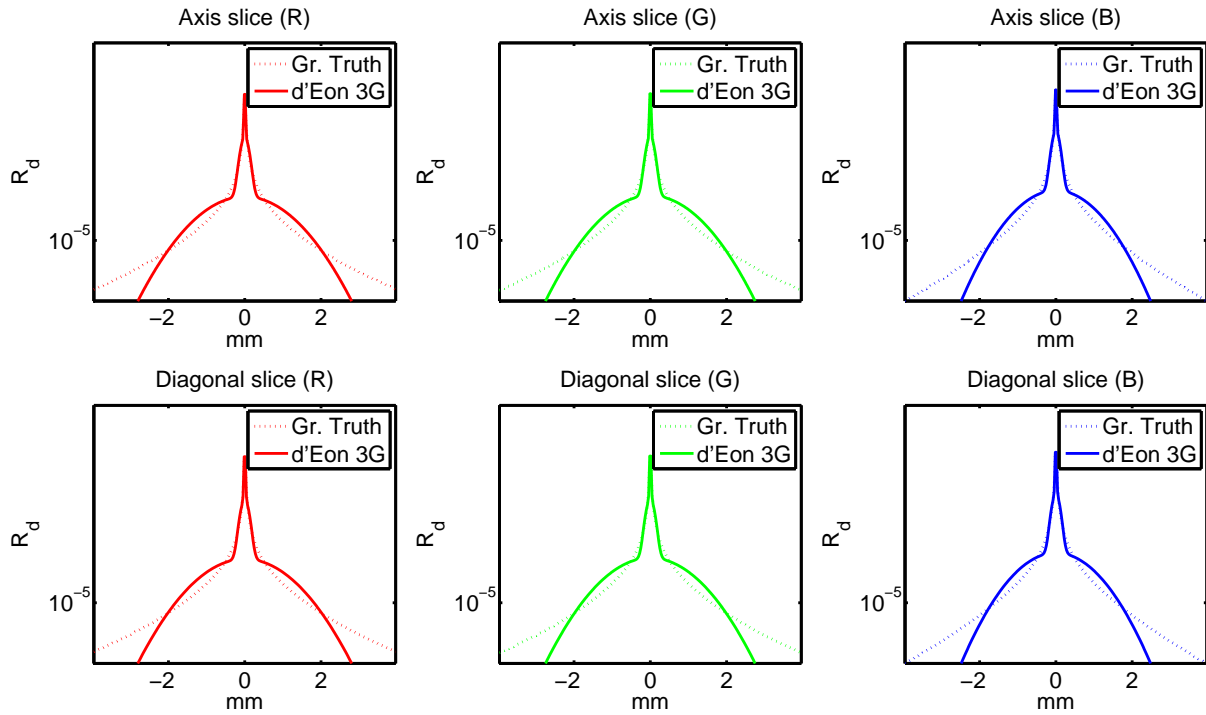


Figure S2.83: Apple - d'Eon 3 Gaussian

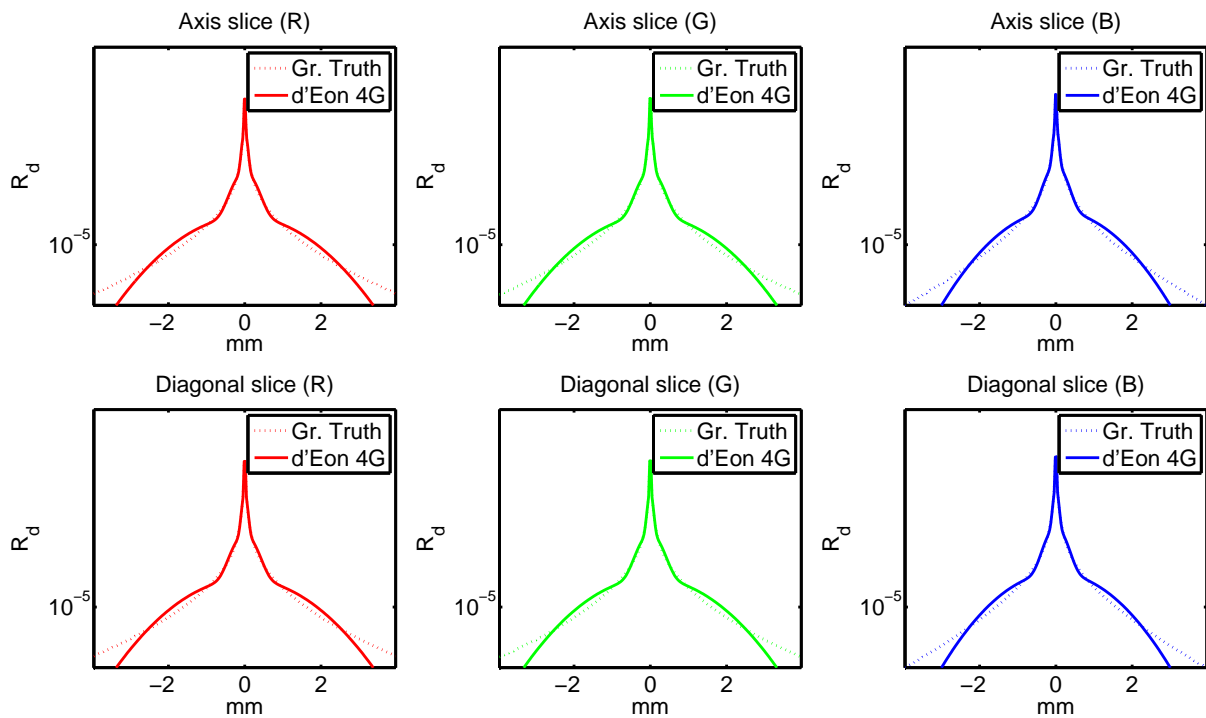


Figure S2.84: Apple - d'Eon 4 Gaussian

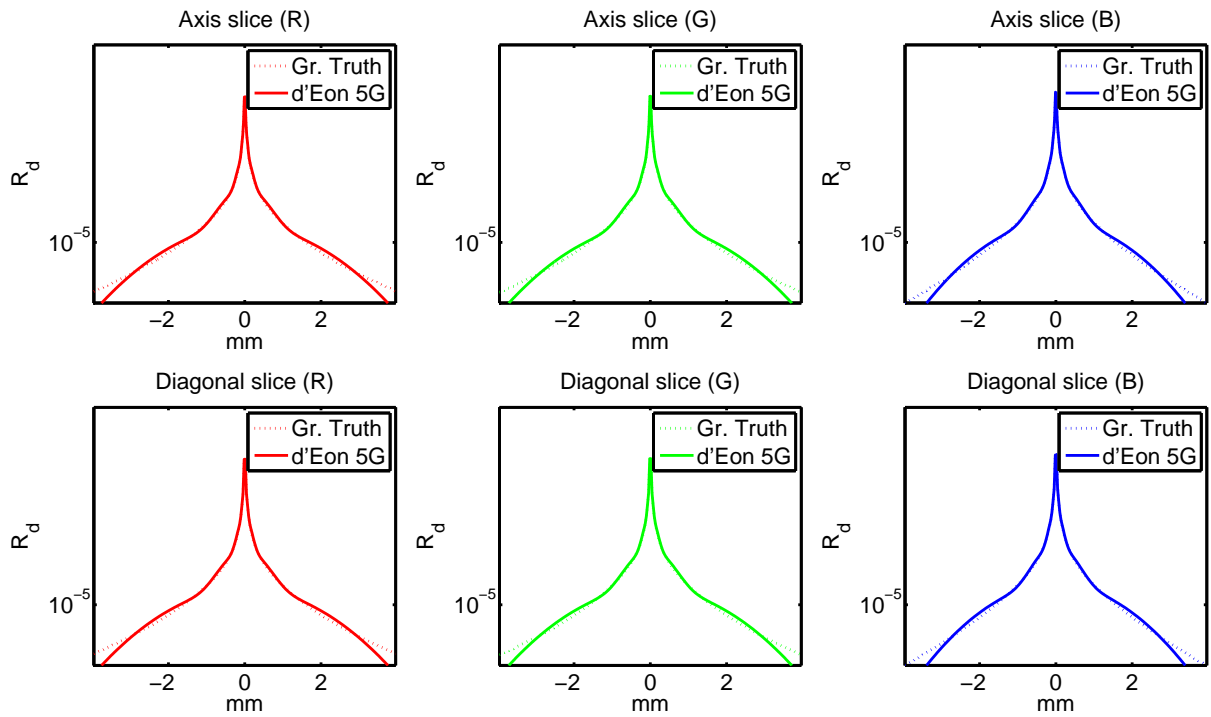


Figure S2.85: Apple - d'Eon 5 Gaussian

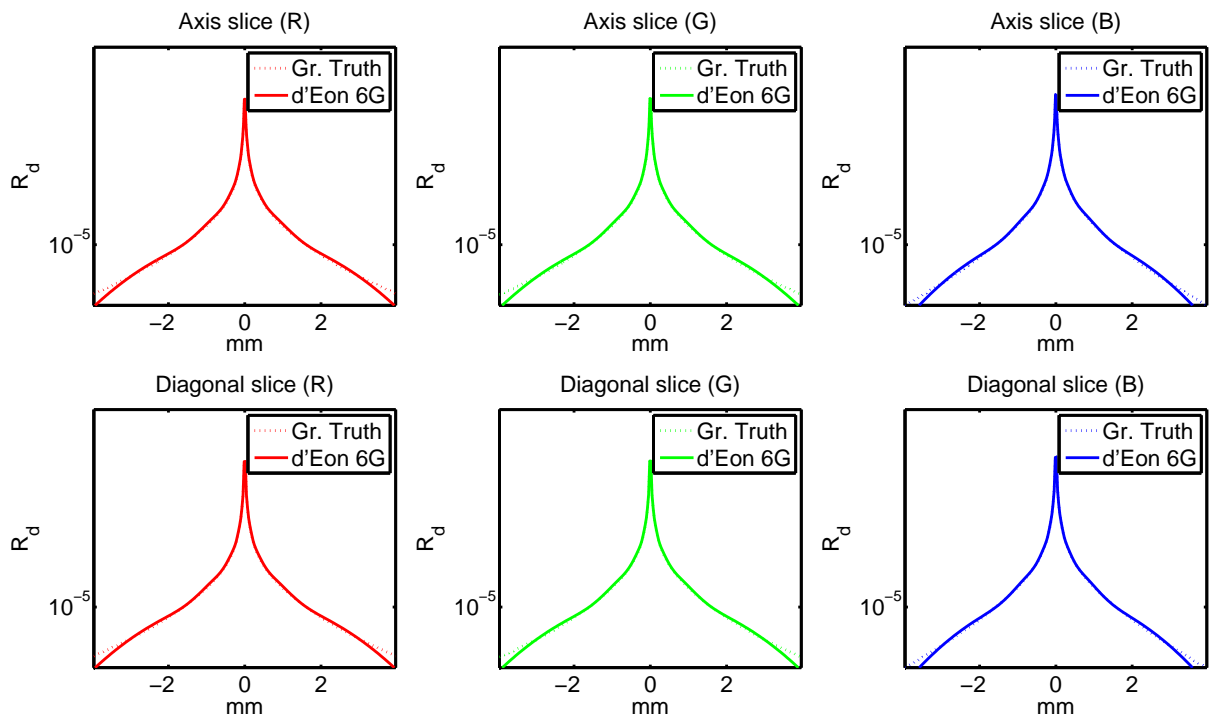


Figure S2.86: Apple - d'Eon 6 Gaussian

M Chicken1

M.1 Rank-1

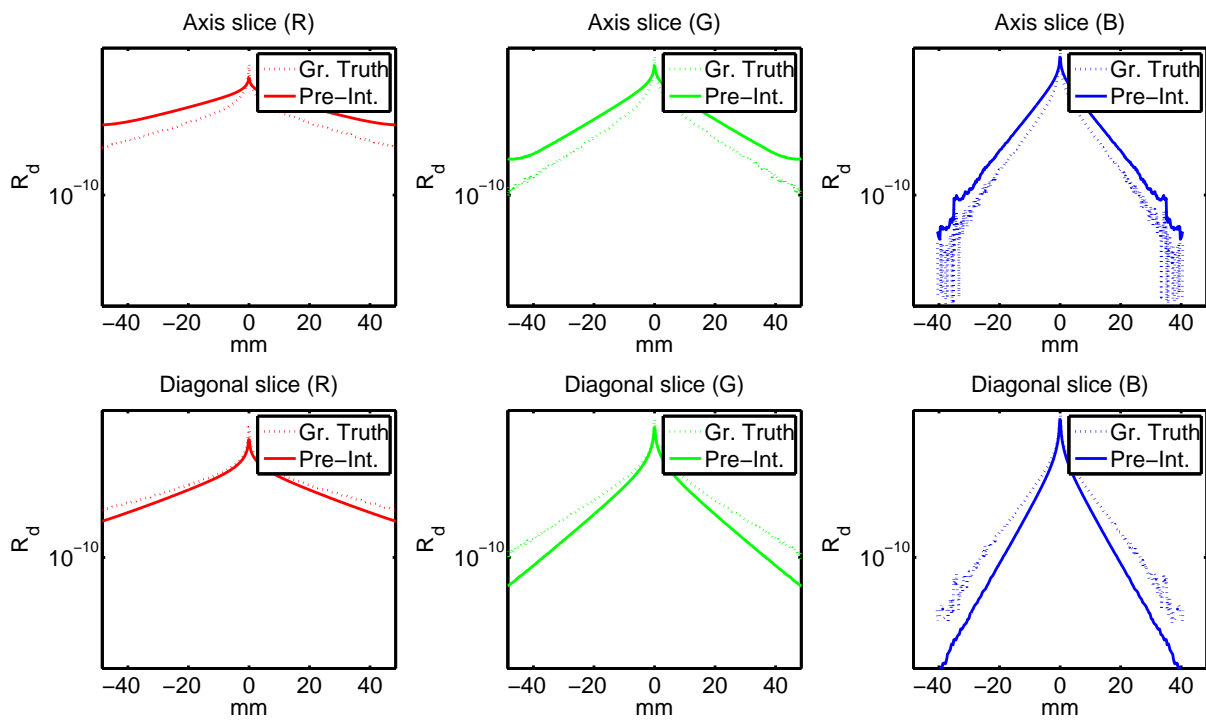


Figure S2.87: Chicken1 - Kernel pre-integration

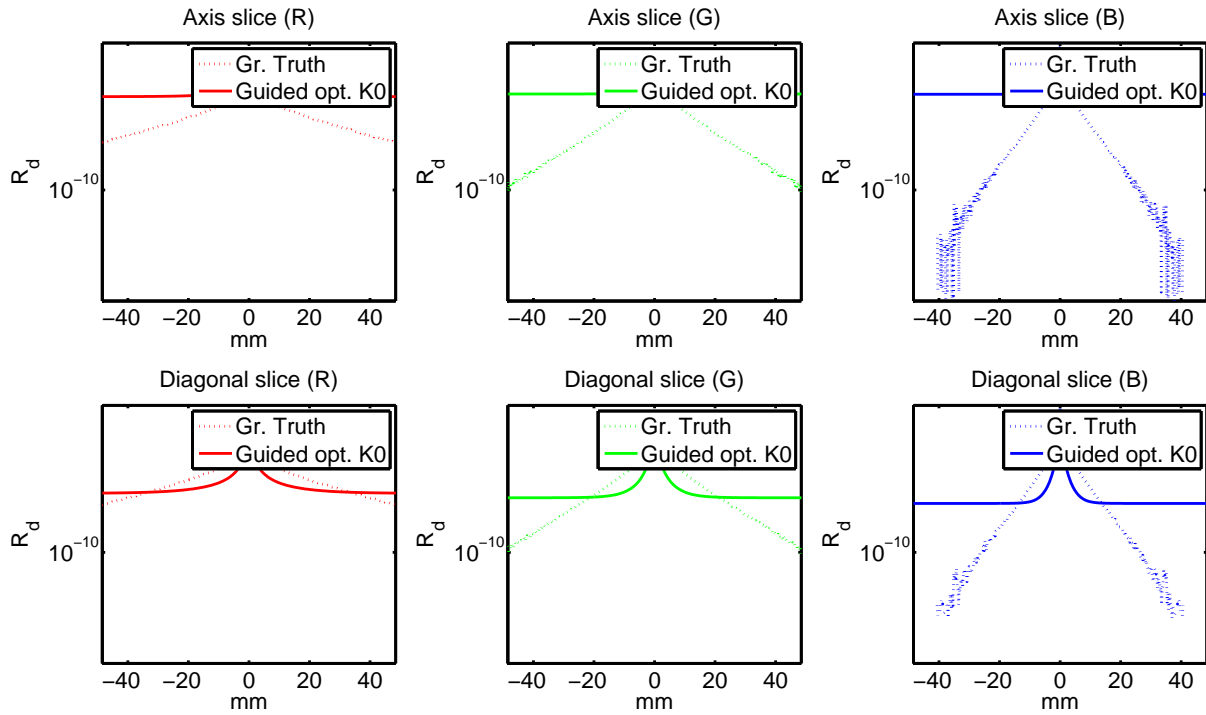


Figure S2.88: Chicken1 - Guided optimization, $k=0$

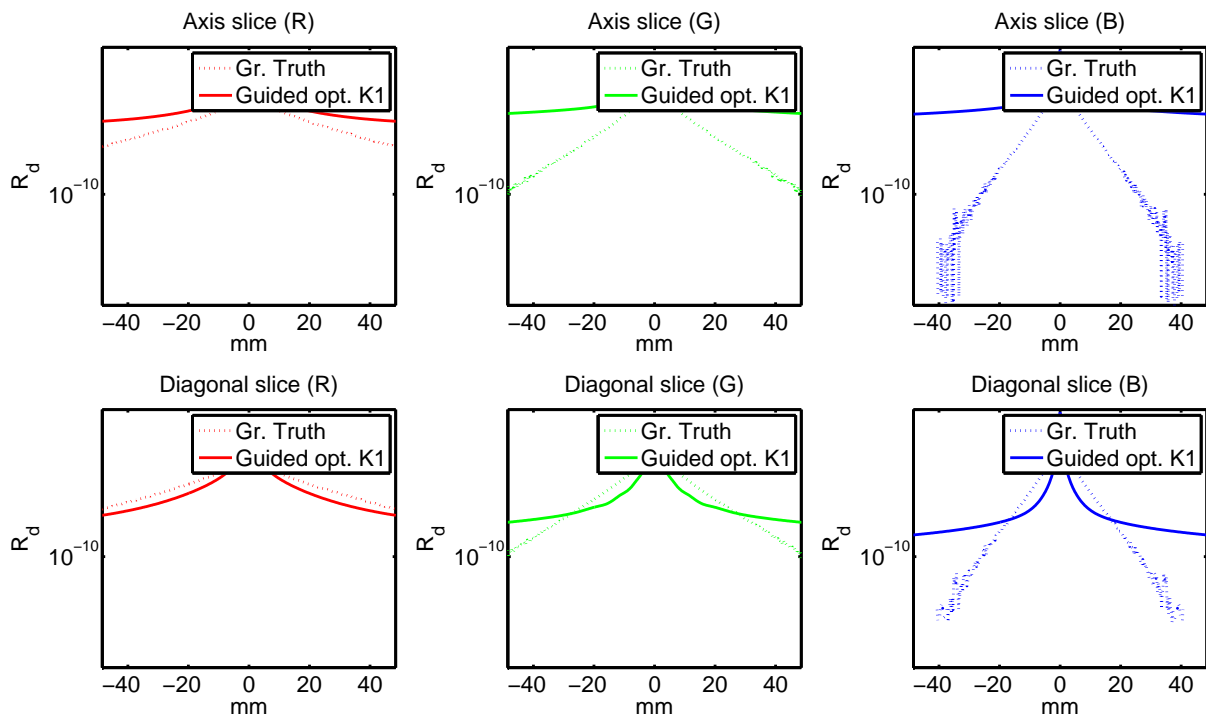


Figure S2.89: Chicken1 - Guided optimization, $k=1$

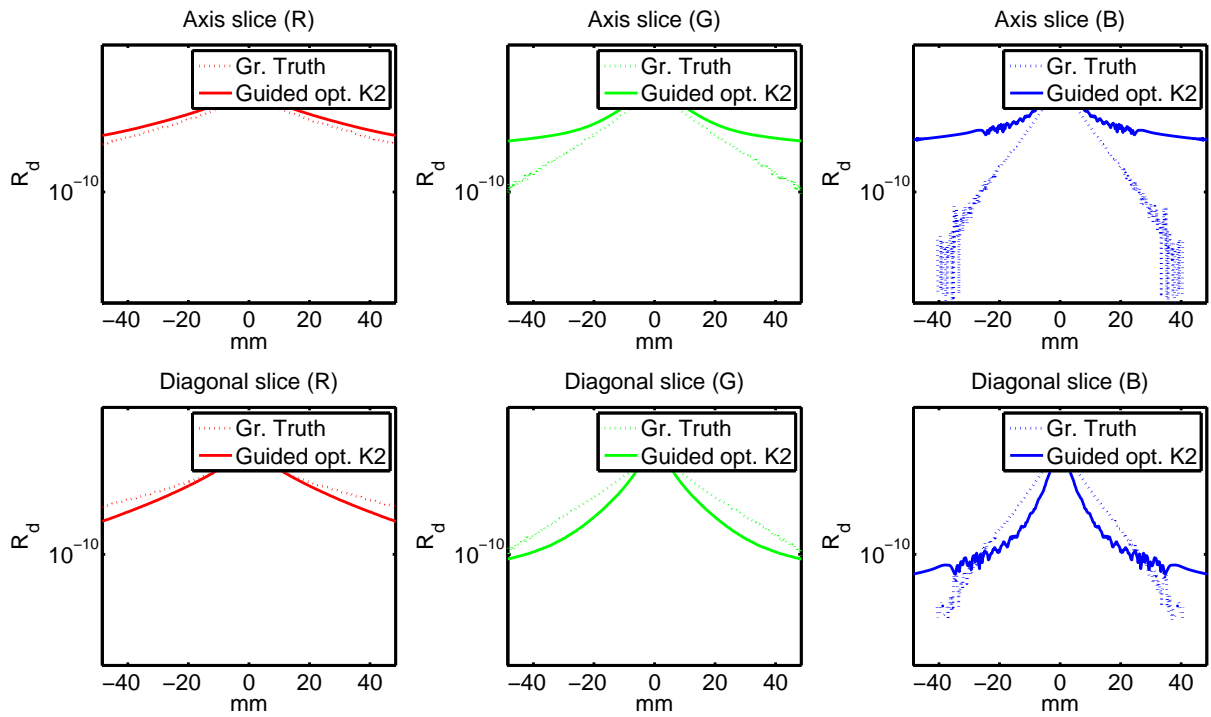


Figure S2.90: Chicken1 - Guided optimization, k=2

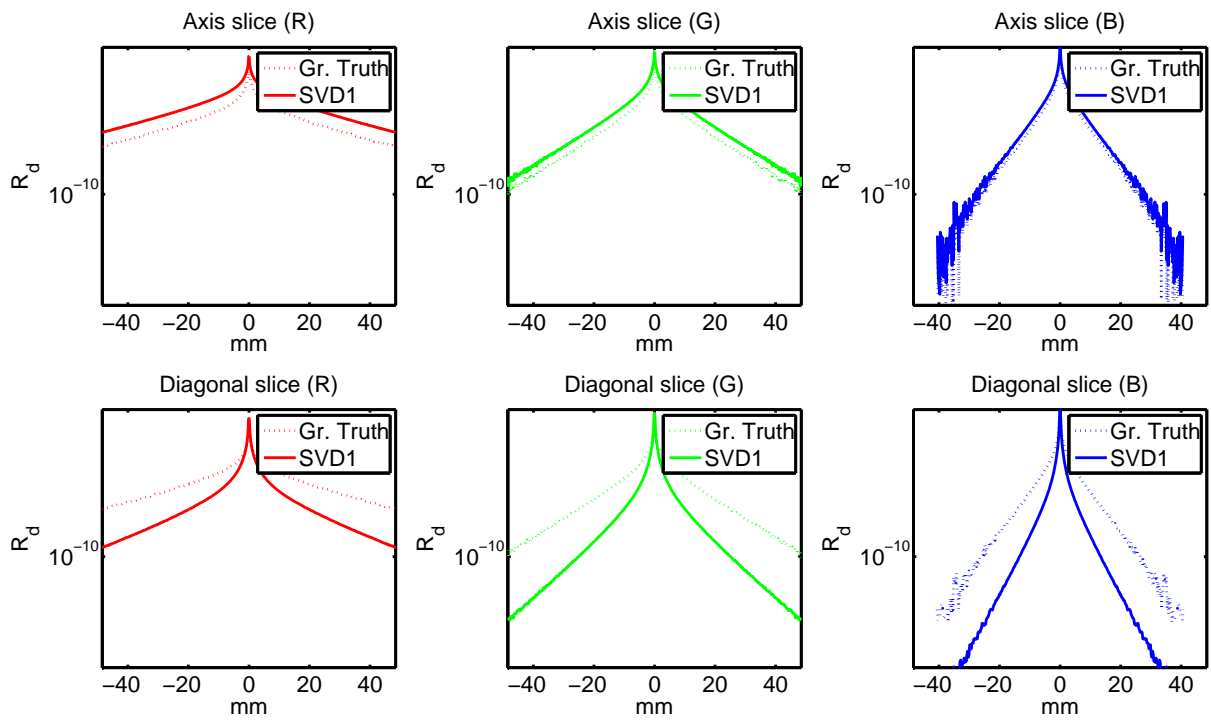


Figure S2.91: Chicken1 - SVD rank-1

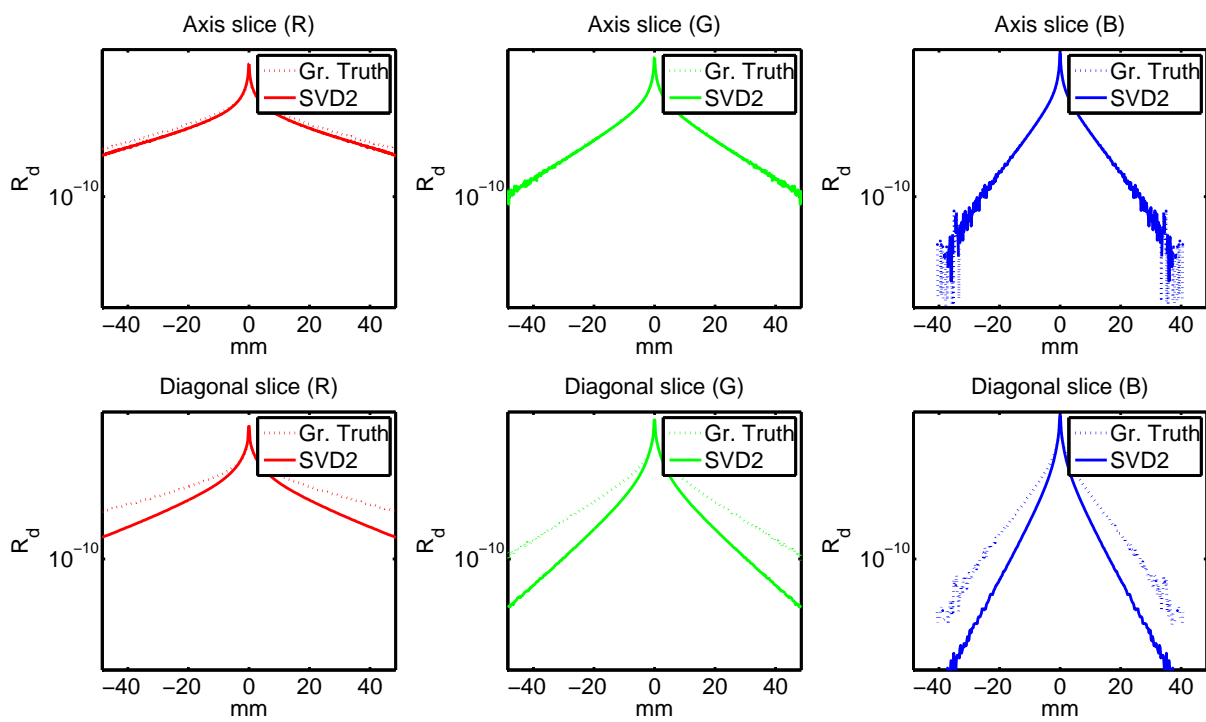


Figure S2.92: Chicken1 - SVD rank-2

M.2 SVD

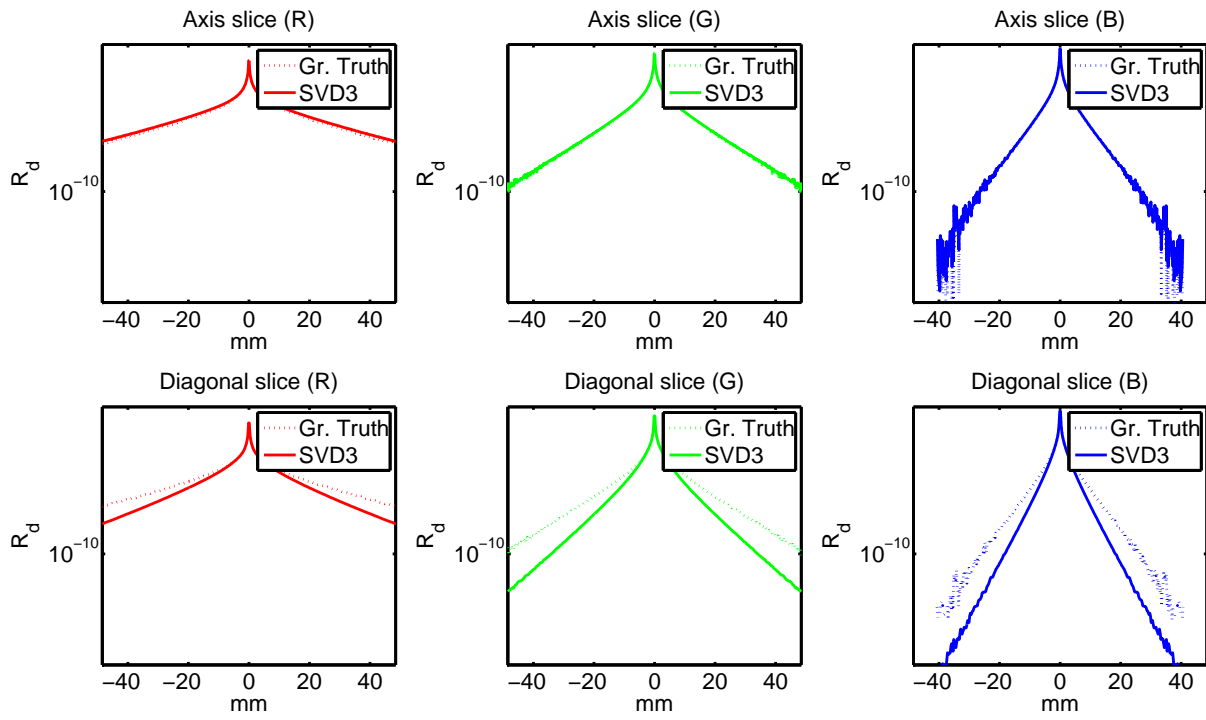


Figure S2.93: Chicken1 - SVD rank-3

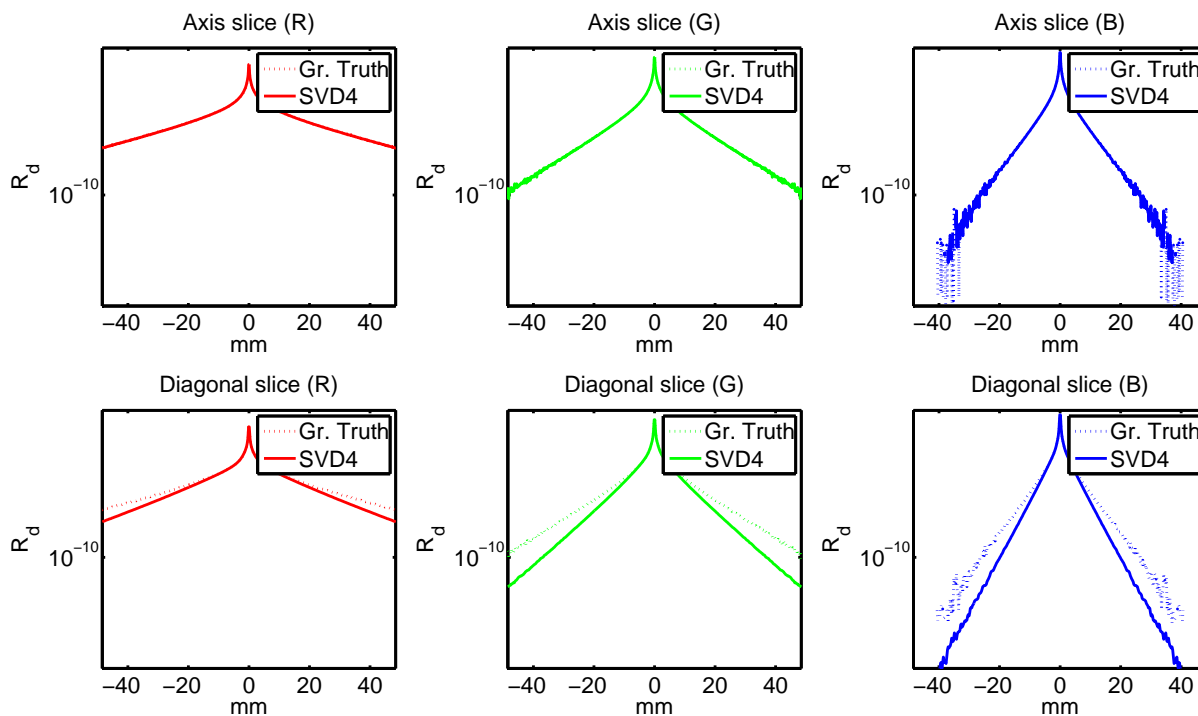


Figure S2.94: Chicken1 - SVD rank-4

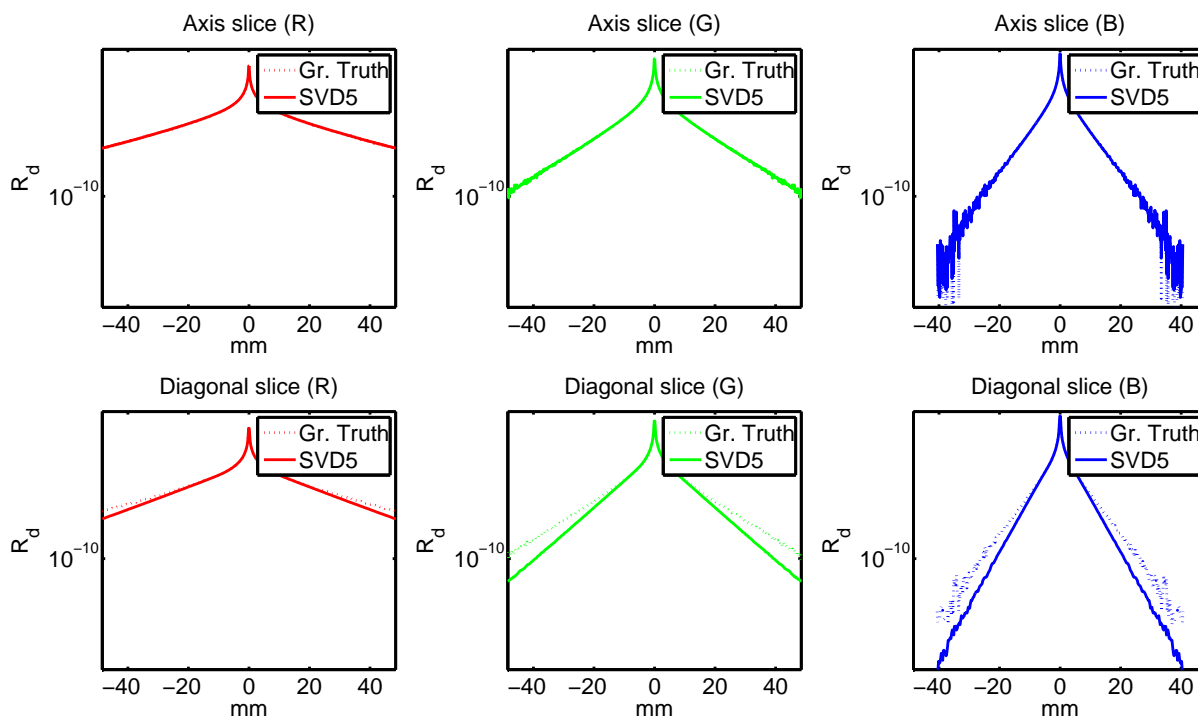


Figure S2.95: Chicken1 - SVD rank-5

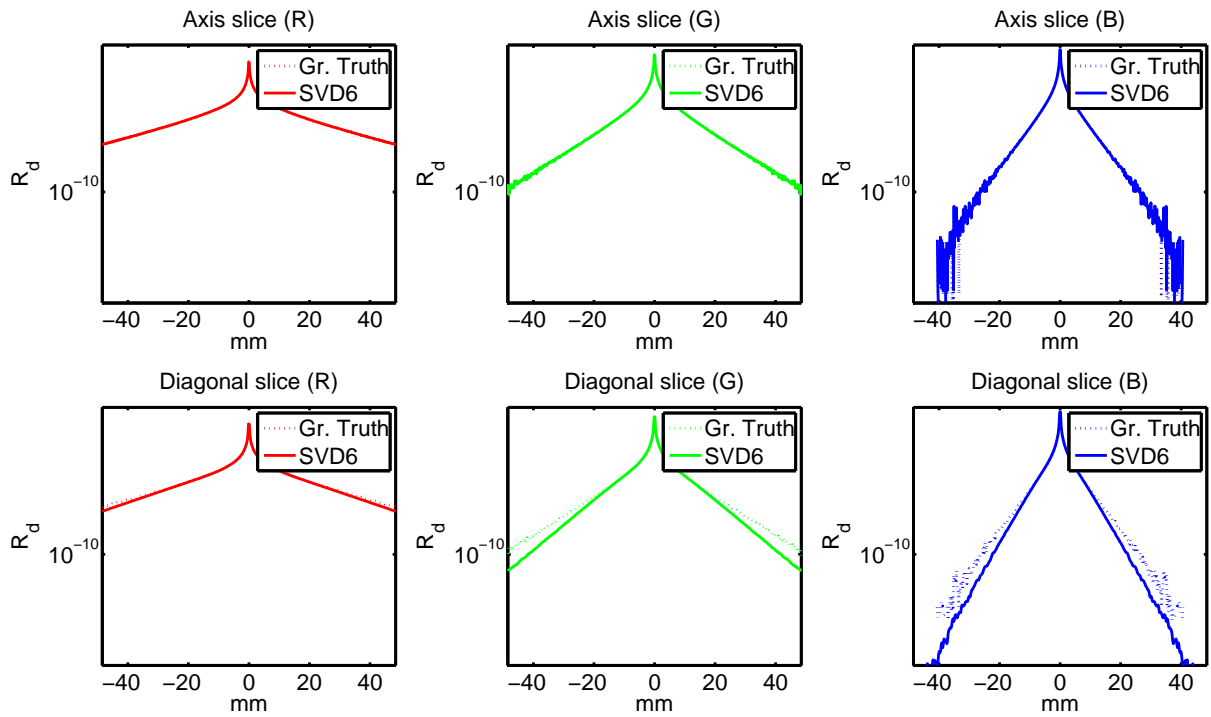


Figure S2.96: Chicken1 - SVD rank-6

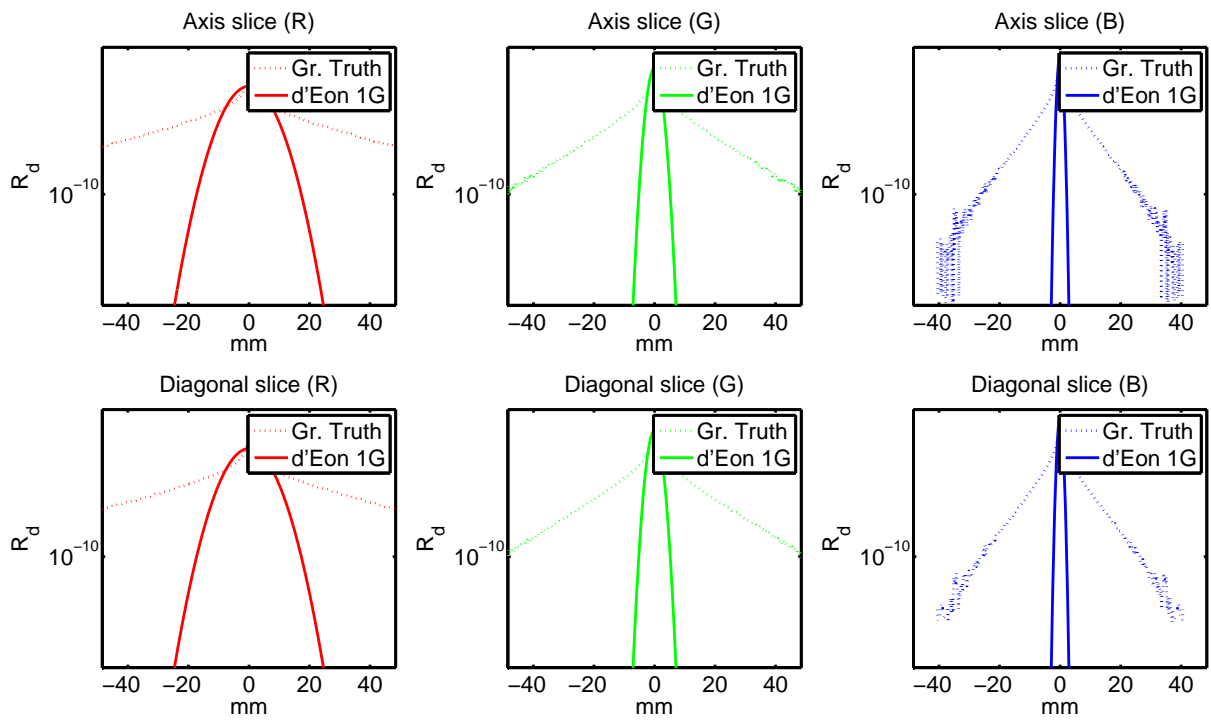


Figure S2.97: Chicken1 - d'Eon 1 Gaussian

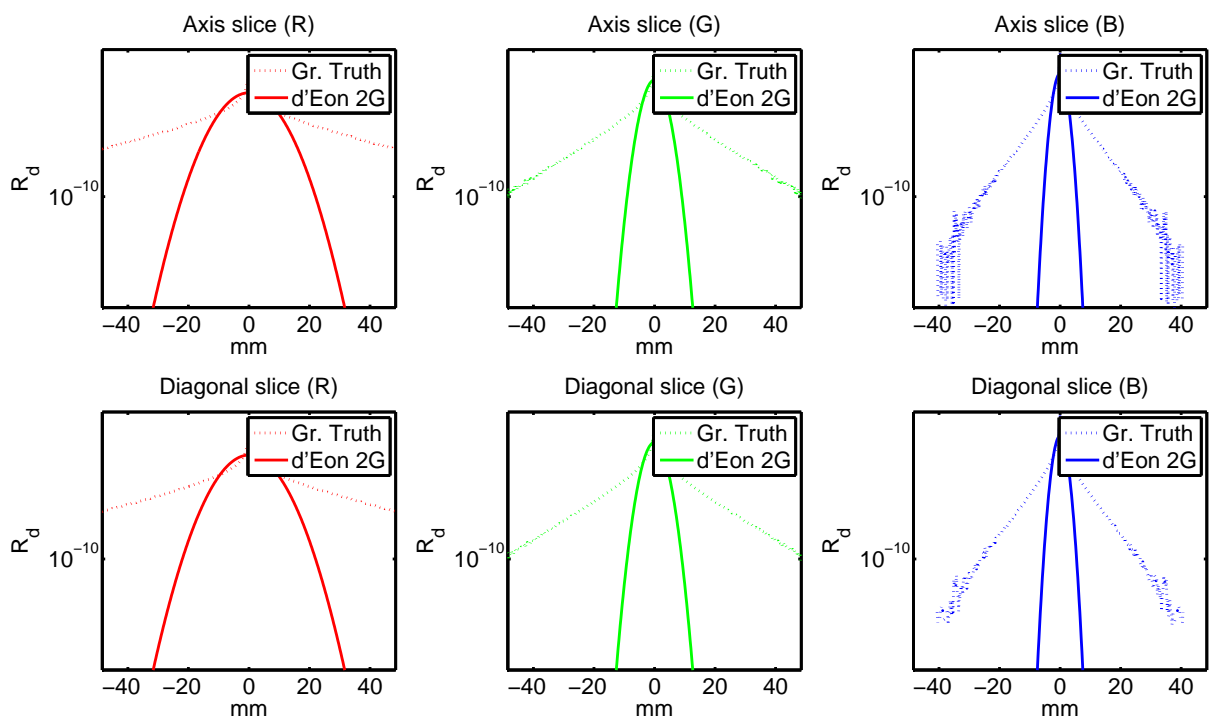


Figure S2.98: Chicken1 - d'Eon 2 Gaussian

M.3 d'Eon

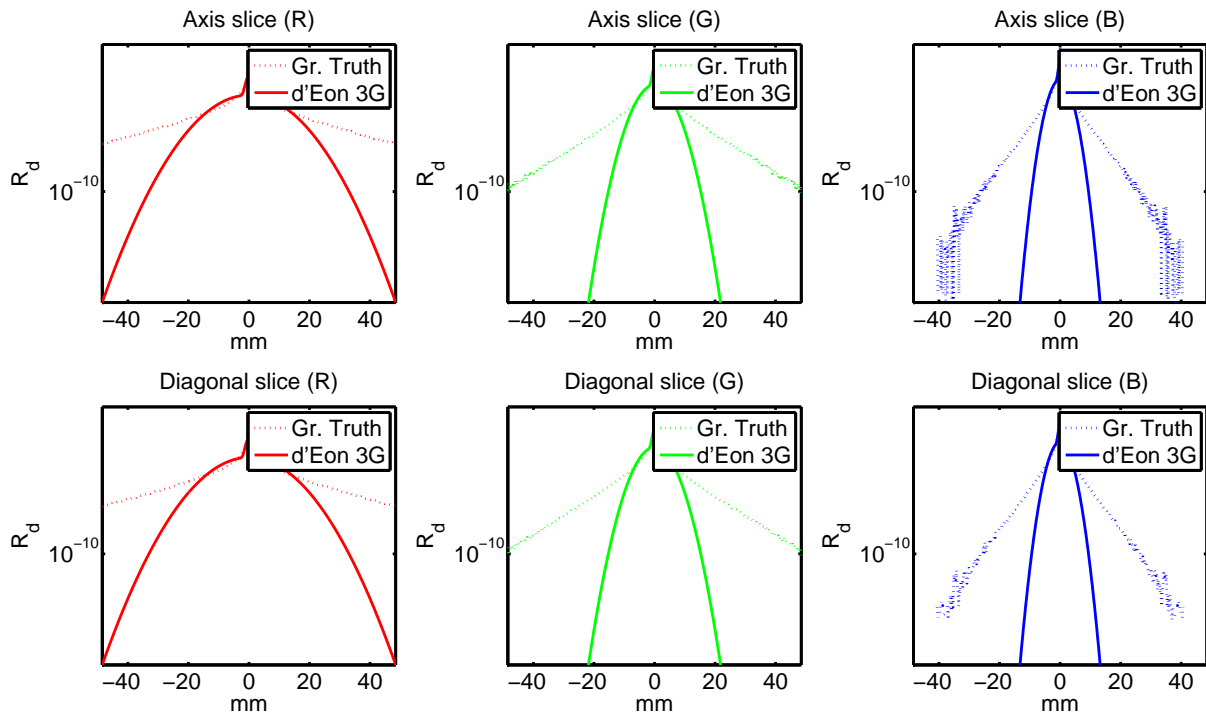


Figure S2.99: Chicken1 - d'Eon 3 Gaussian

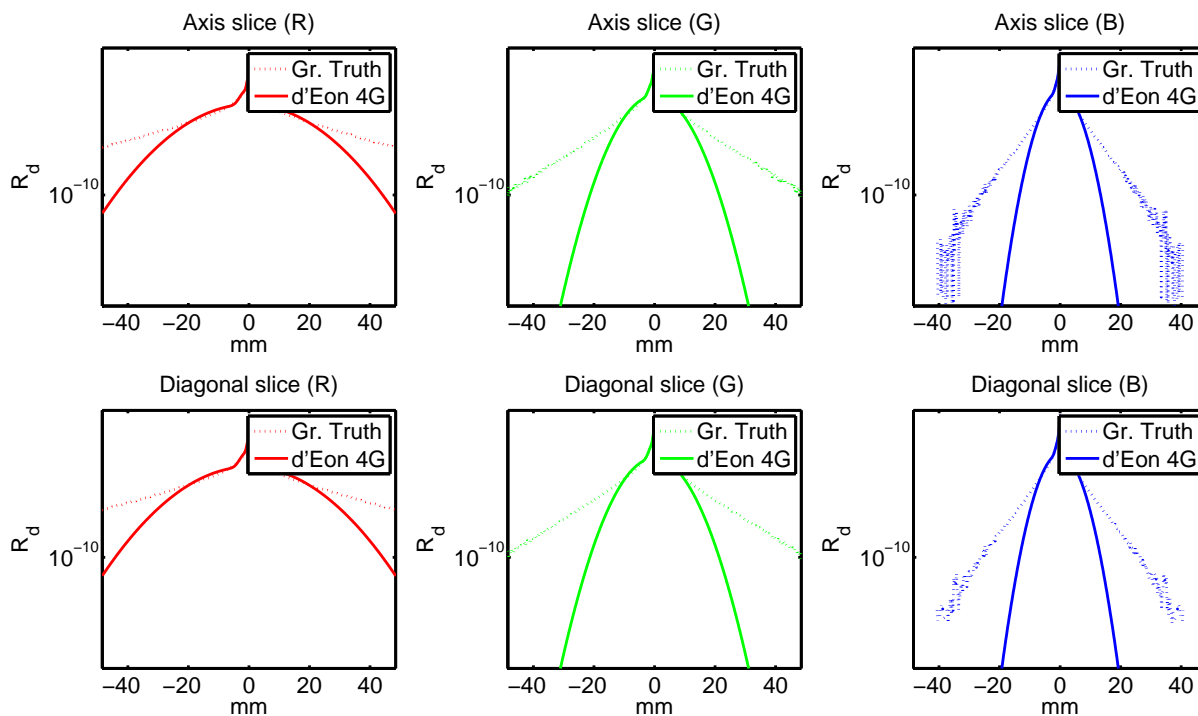


Figure S2.100: Chicken1 - d'Eon 4 Gaussian

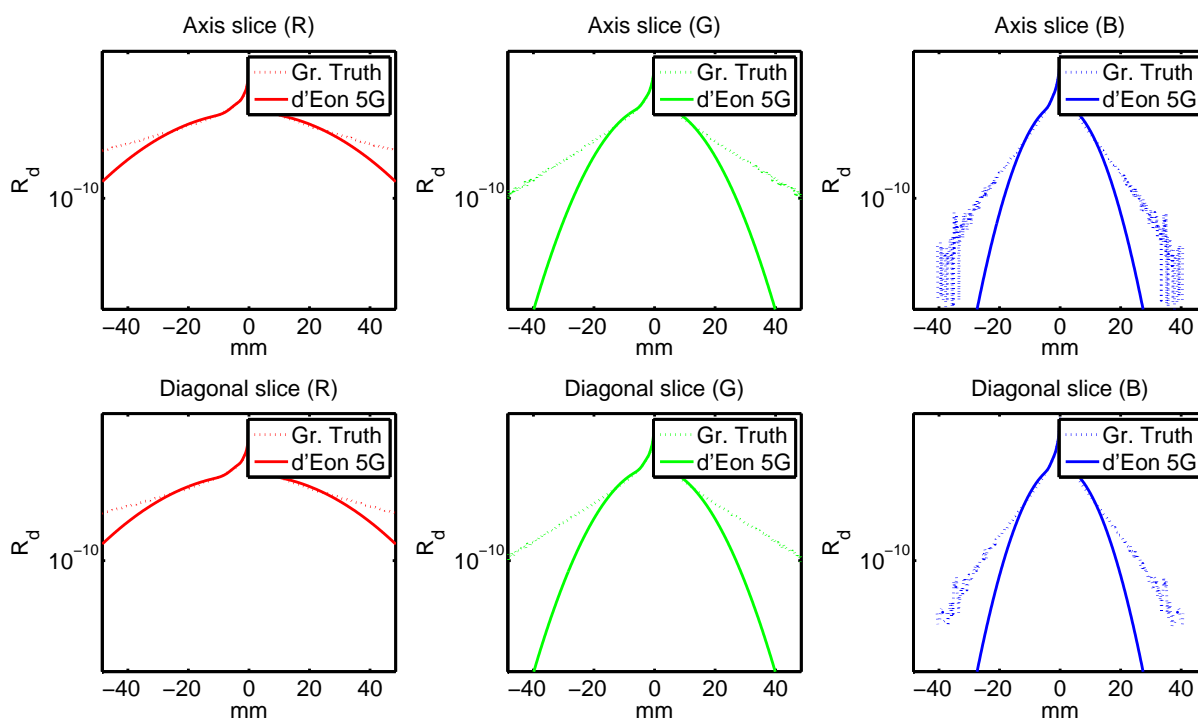


Figure S2.101: Chicken1 - d'Eon 5 Gaussian

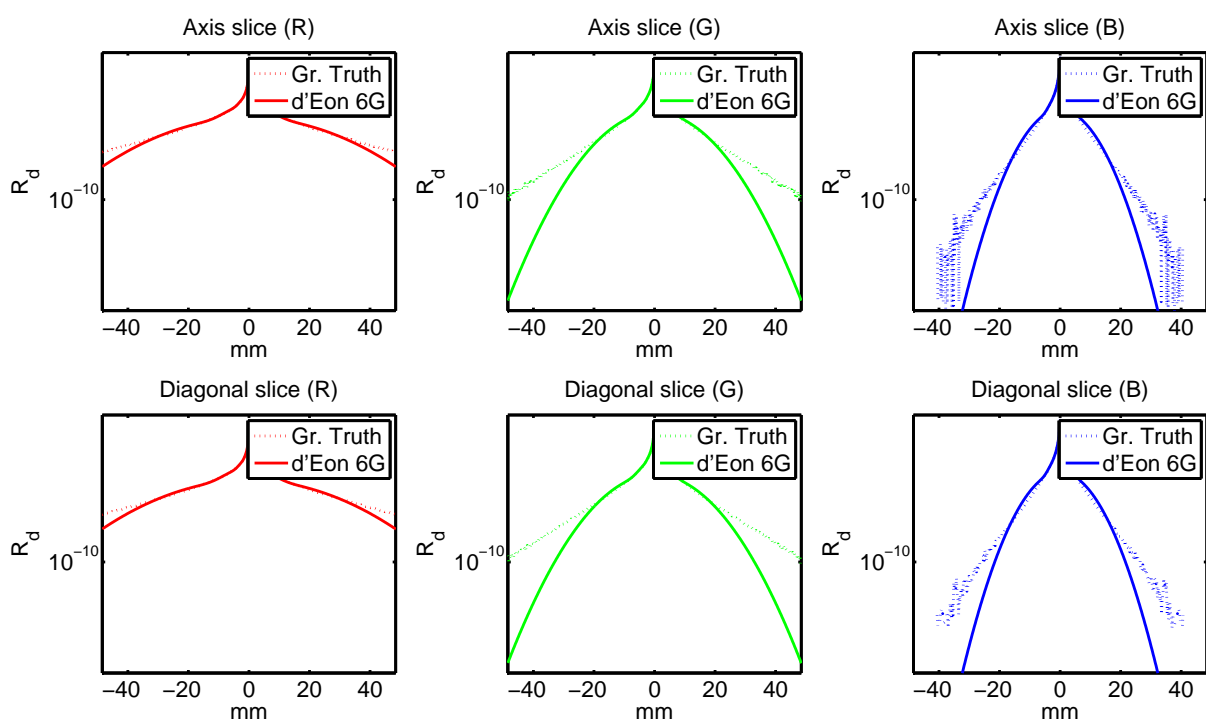


Figure S2.102: Chicken1 - d'Eon 6 Gaussian

N Chicken2

N.1 Rank-1

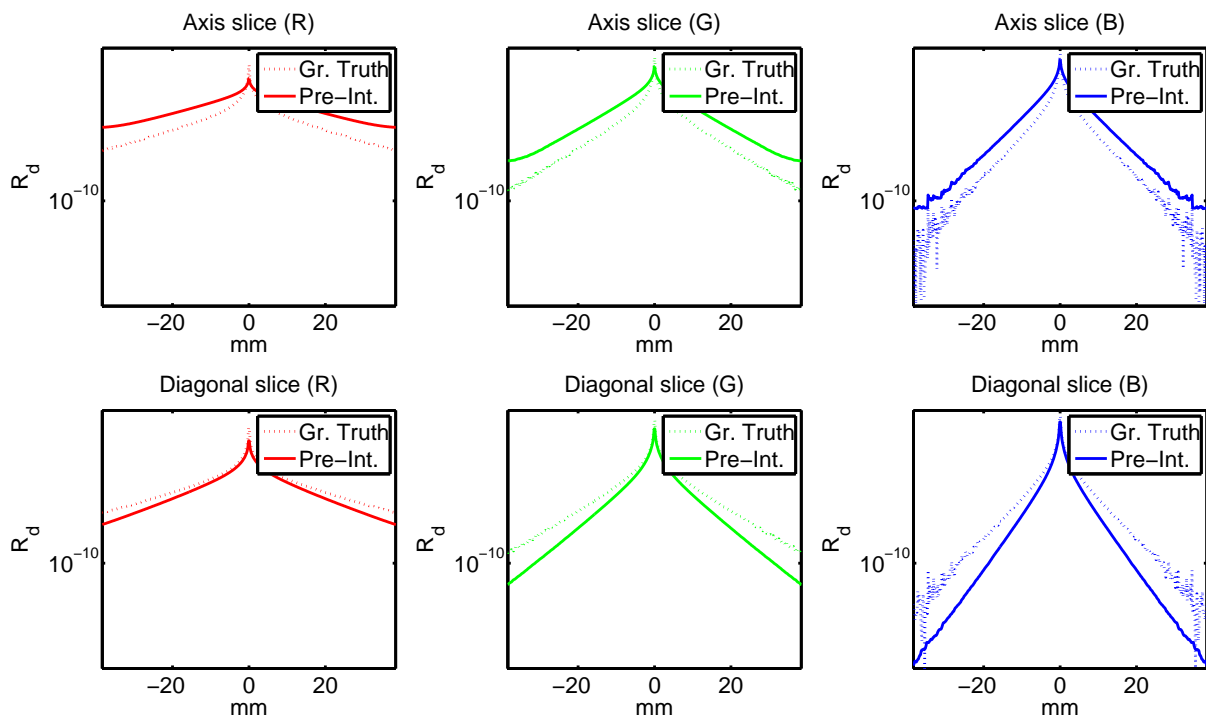


Figure S2.103: Chicken2 - Kernel pre-integration

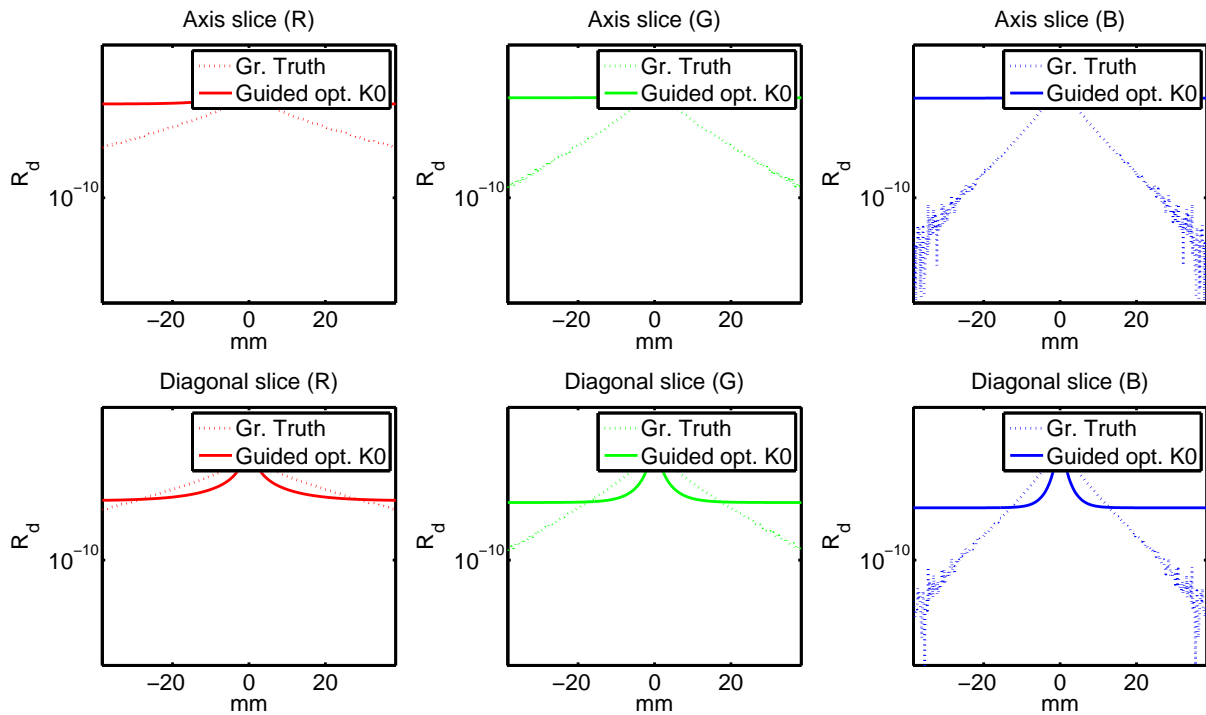


Figure S2.104: Chicken2 - Guided optimization, k=0

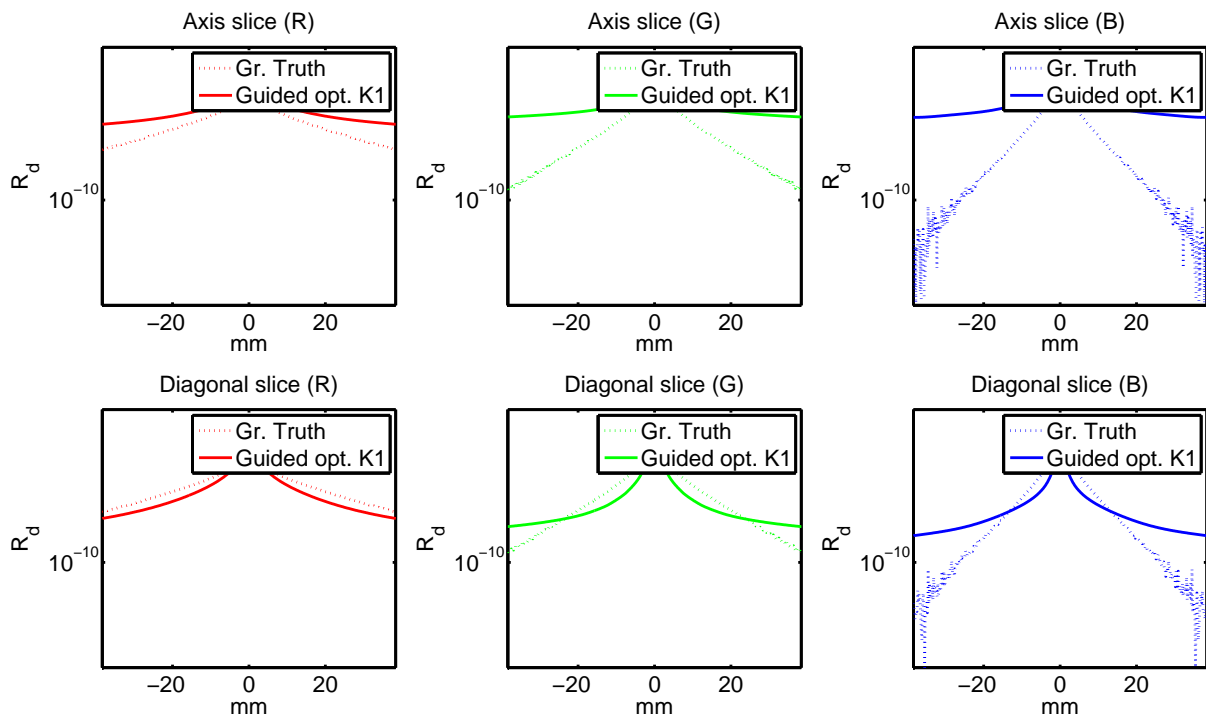


Figure S2.105: Chicken2 - Guided optimization, k=1

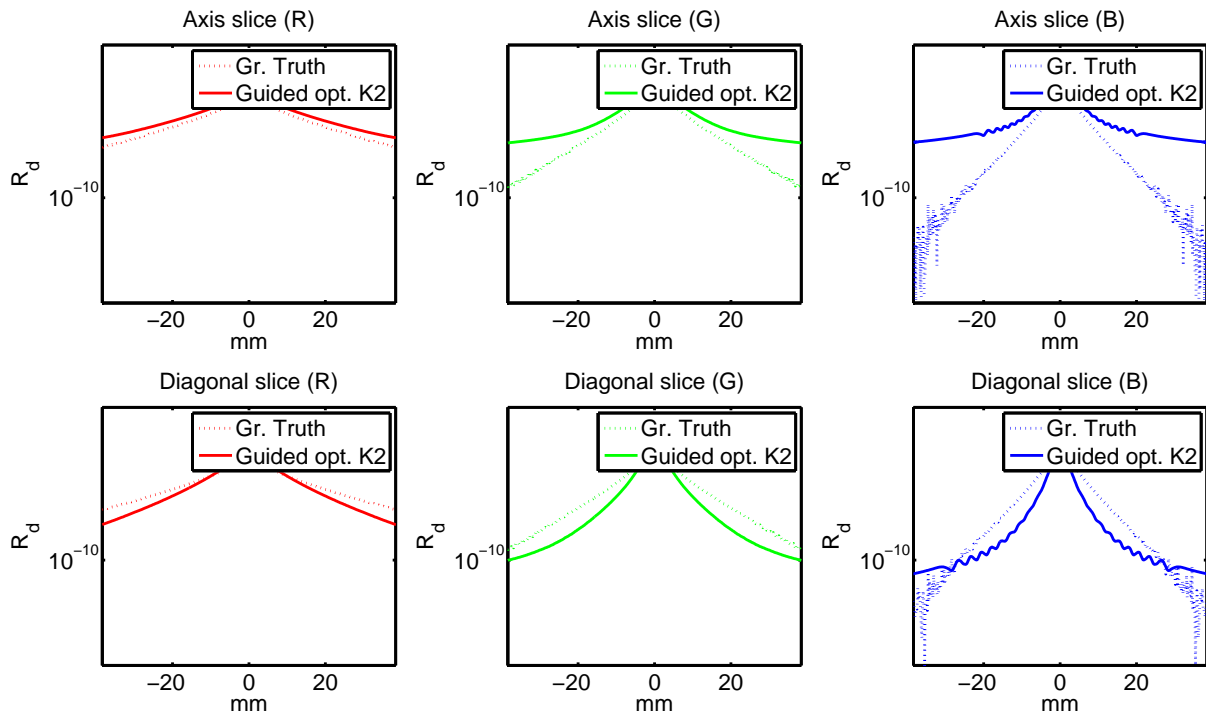


Figure S2.106: Chicken2 - Guided optimization, k=2

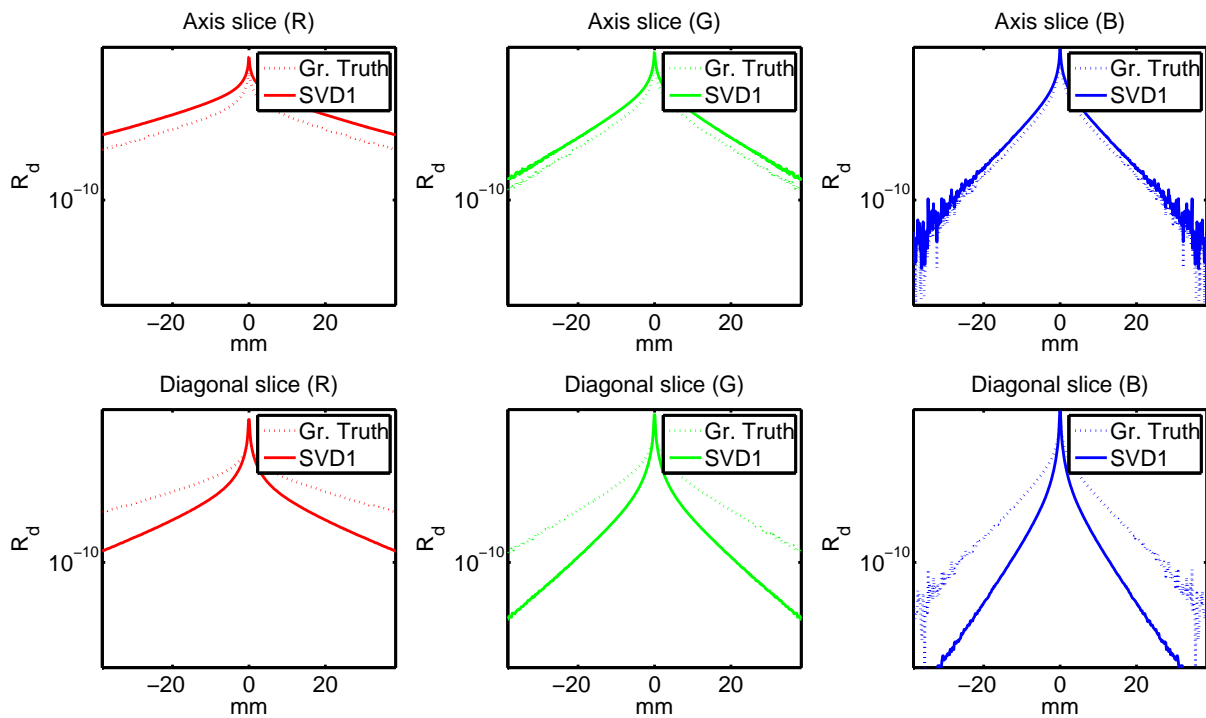


Figure S2.107: Chicken2 - SVD rank-1

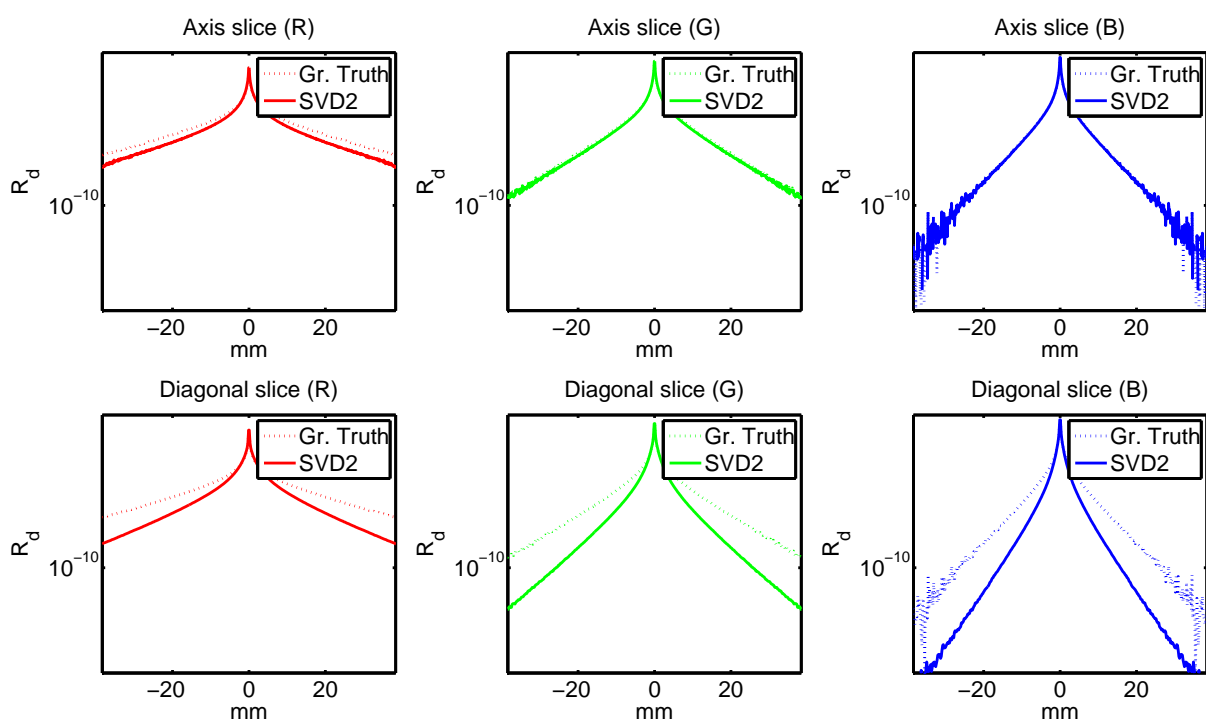


Figure S2.108: Chicken2 - SVD rank-2

N.2 SVD

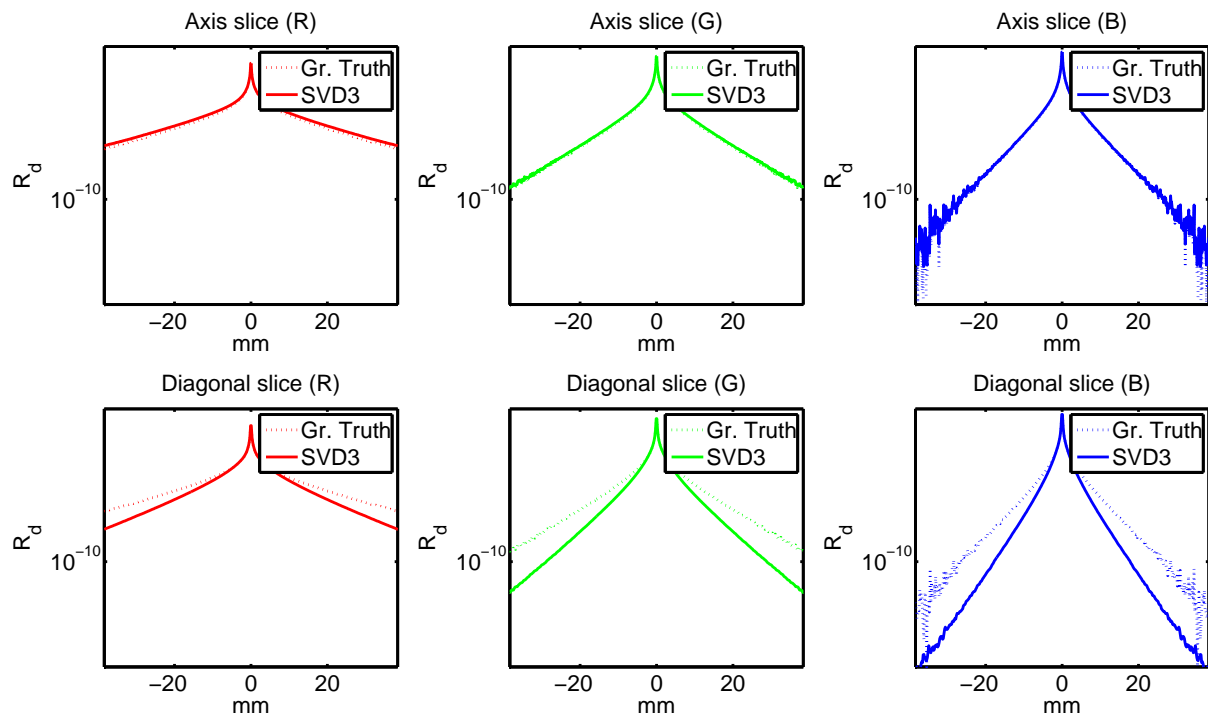


Figure S2.109: Chicken2 - SVD rank-3

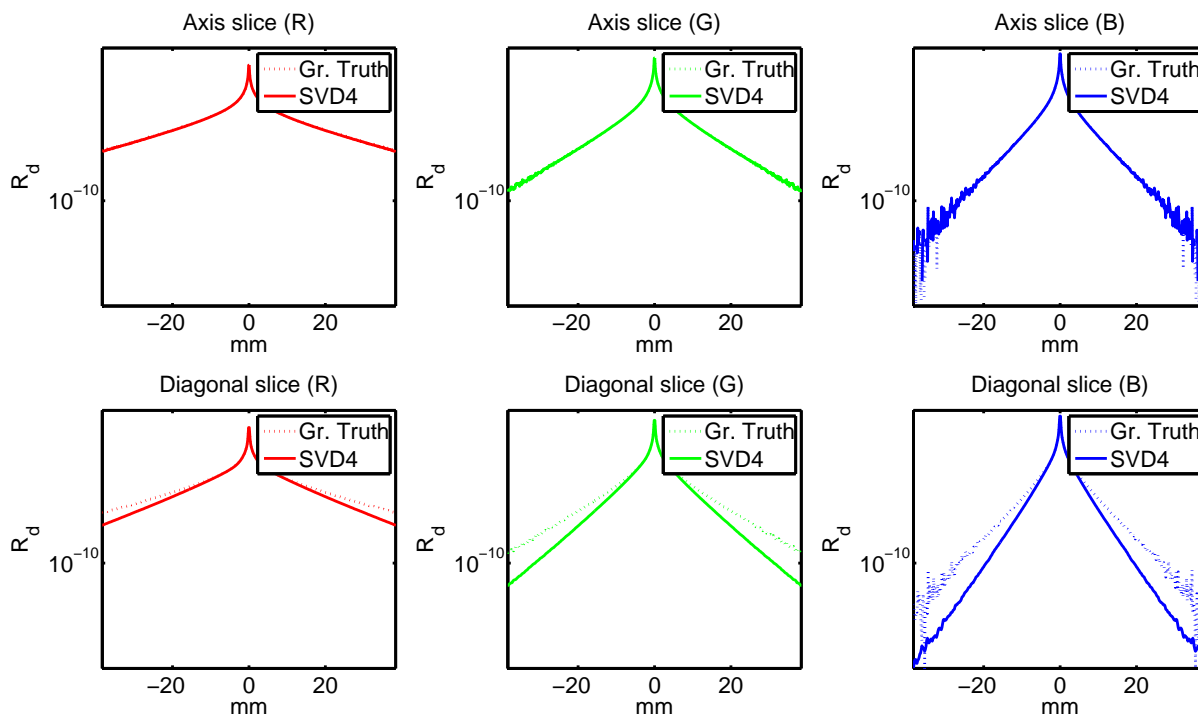


Figure S2.110: Chicken2 - SVD rank-4

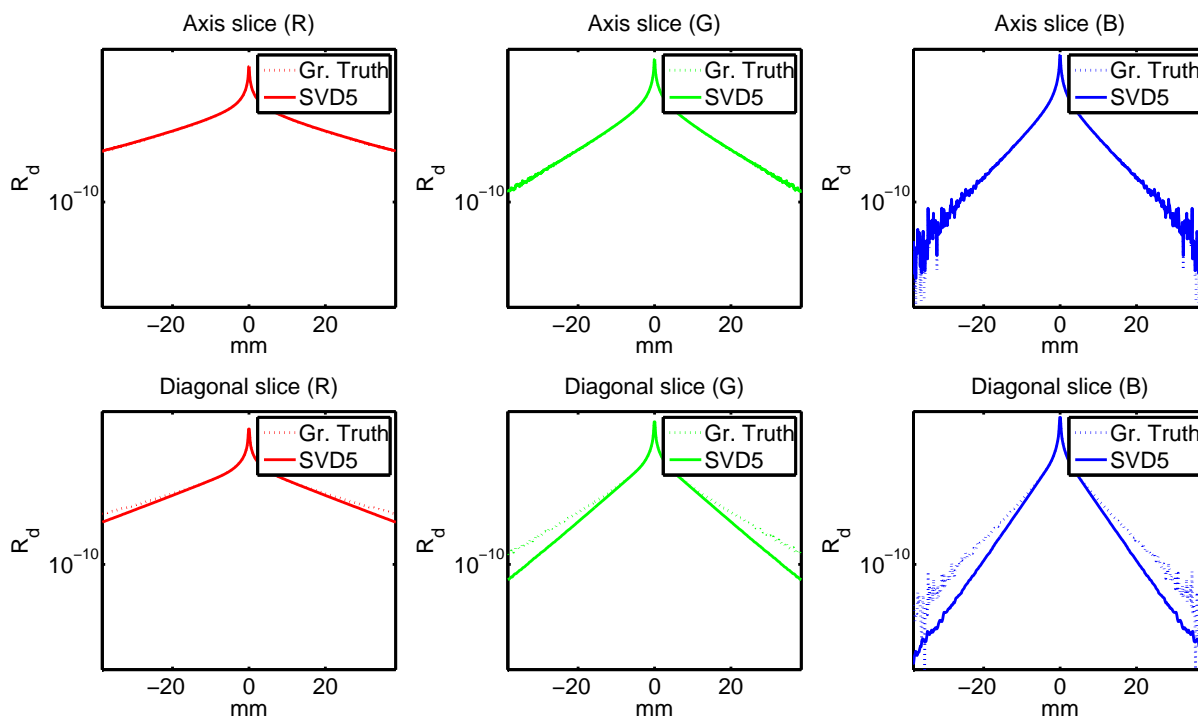


Figure S2.111: Chicken2 - SVD rank-5

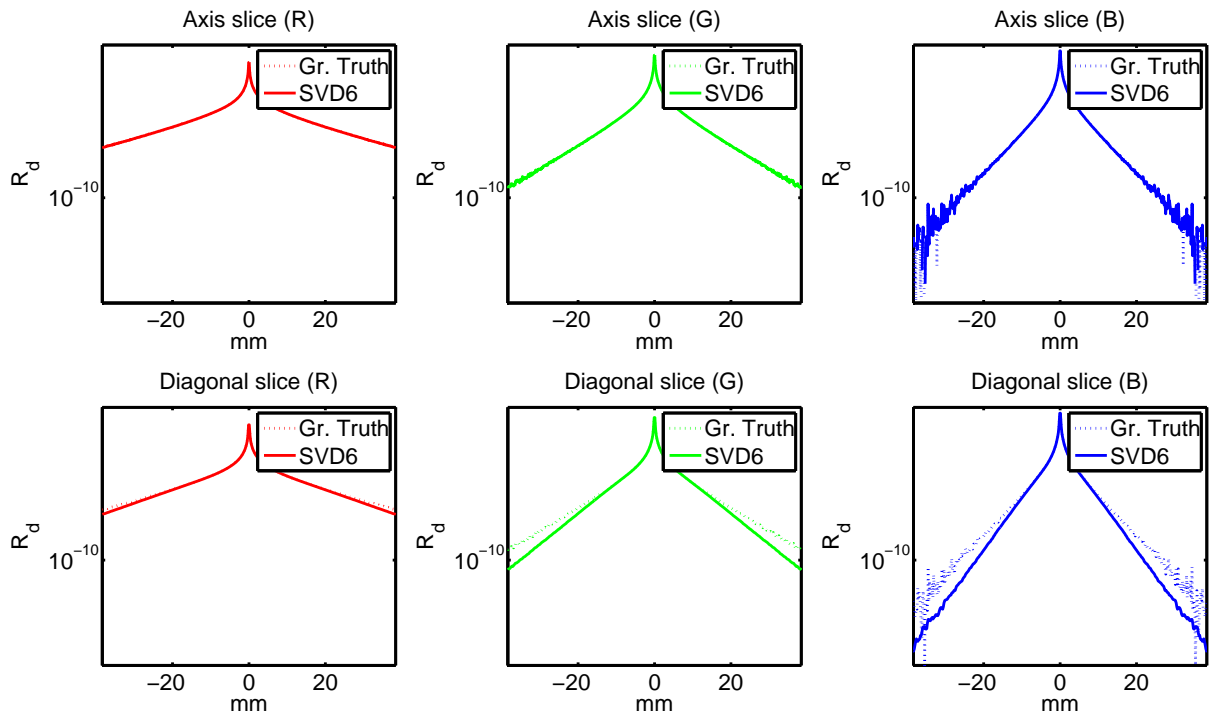


Figure S2.112: Chicken2 - SVD rank-6

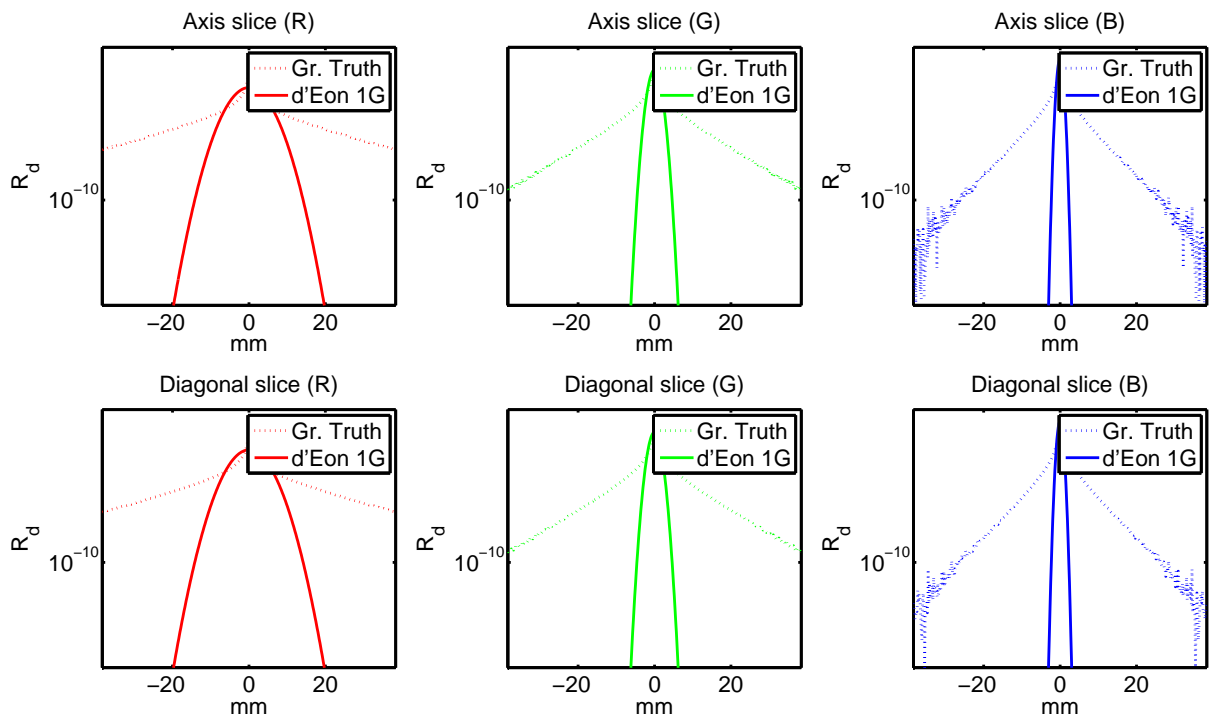


Figure S2.113: Chicken2 - d'Eon 1 Gaussian

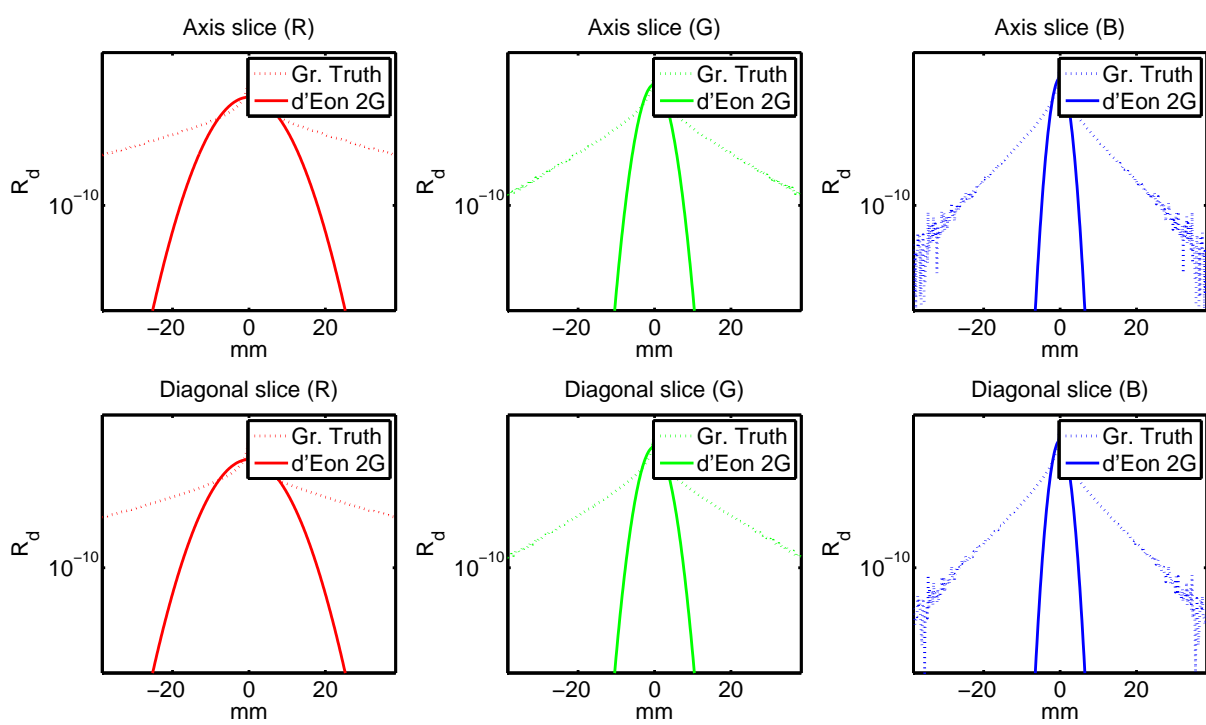


Figure S2.114: Chicken2 - d'Eon 2 Gaussian

N.3 d'Eon

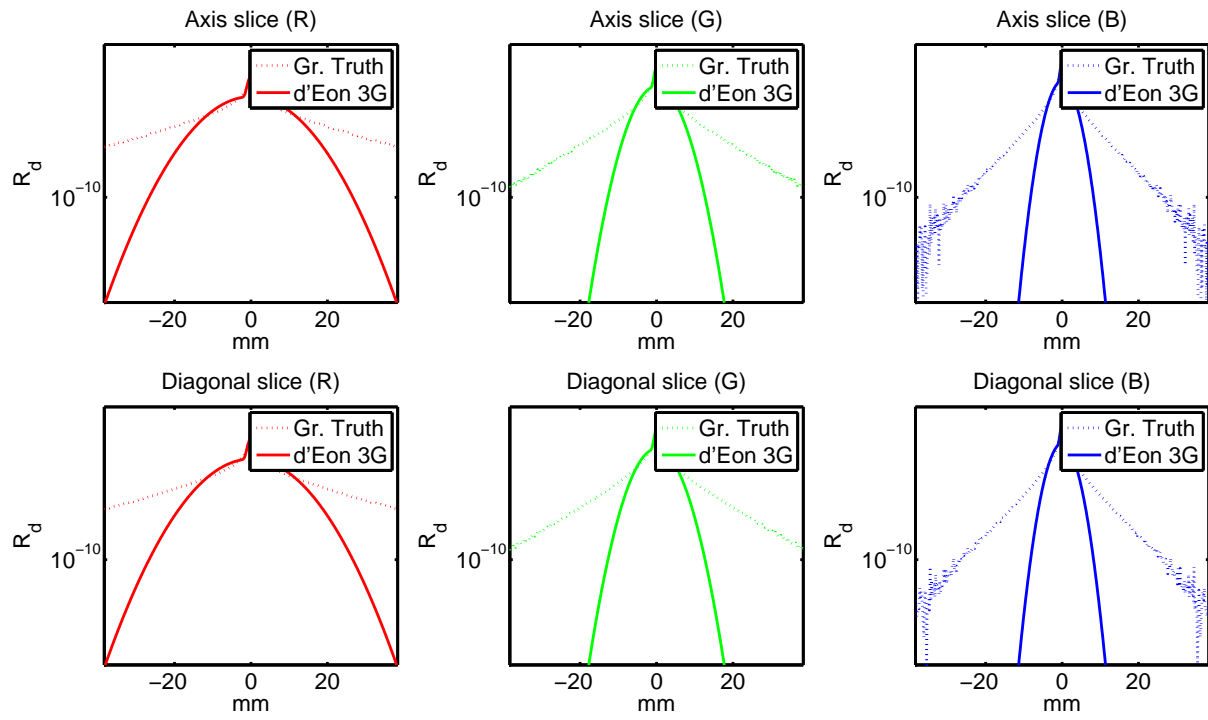


Figure S2.115: Chicken2 - d'Eon 3 Gaussian

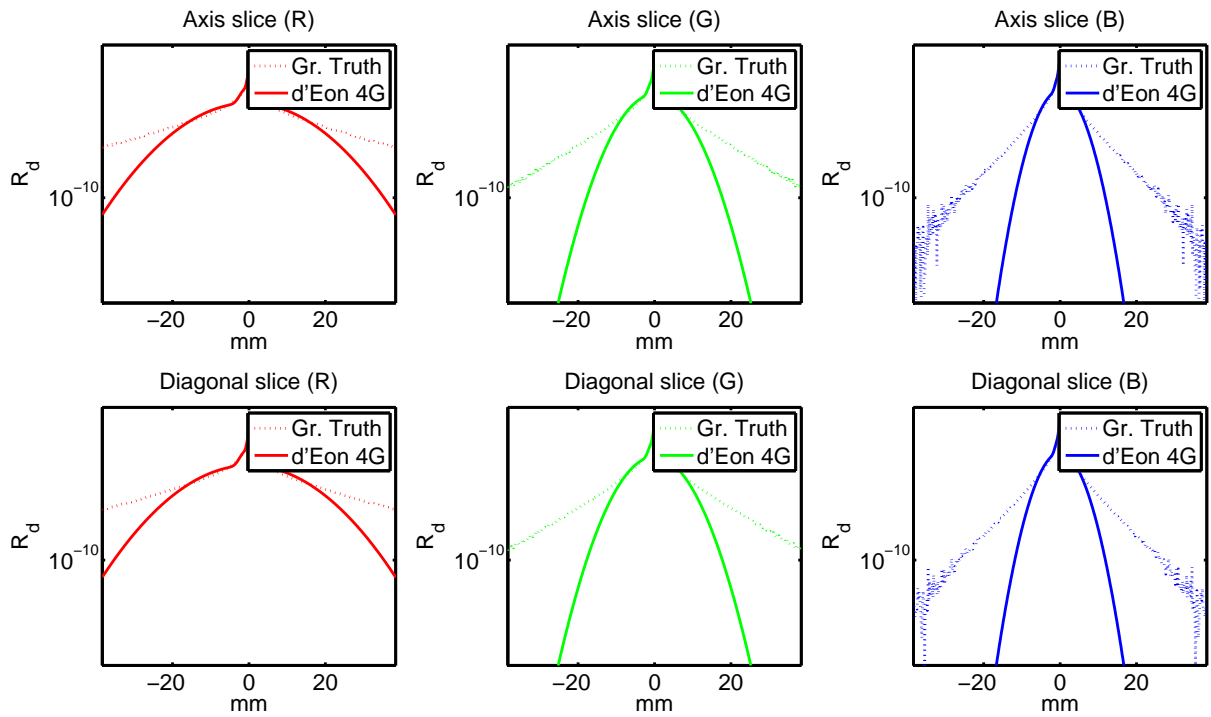


Figure S2.116: Chicken2 - d'Eon 4 Gaussian

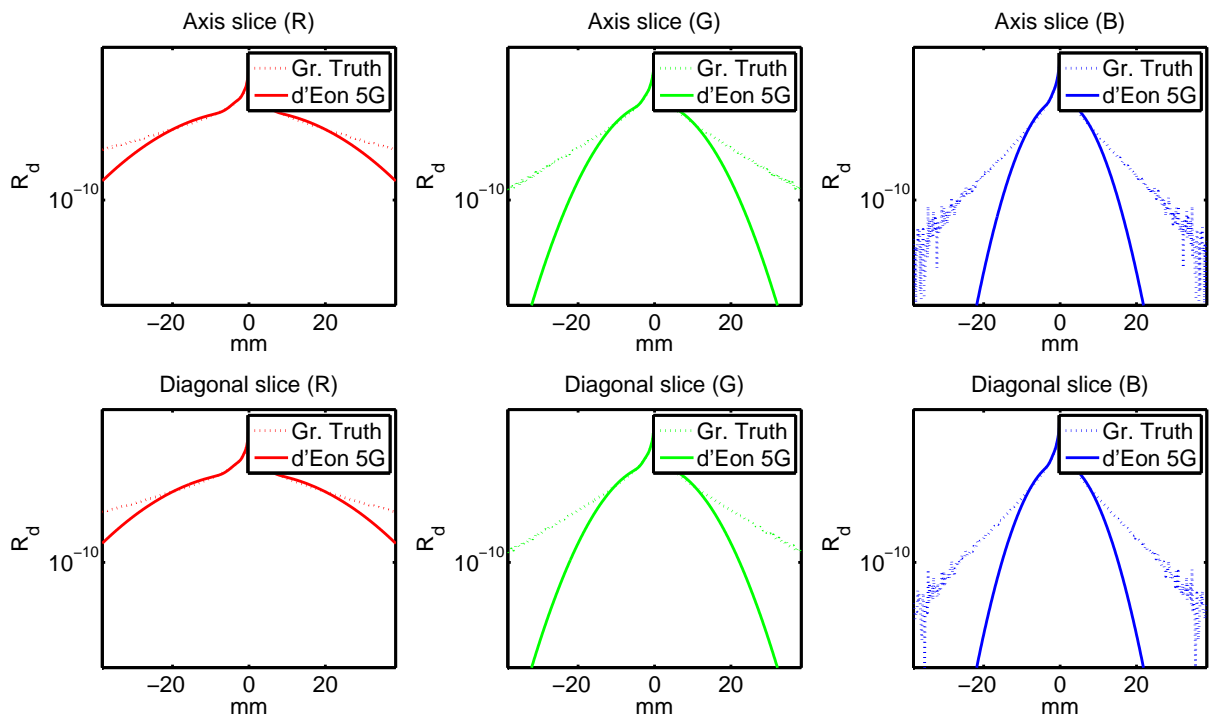


Figure S2.117: Chicken2 - d'Eon 5 Gaussian

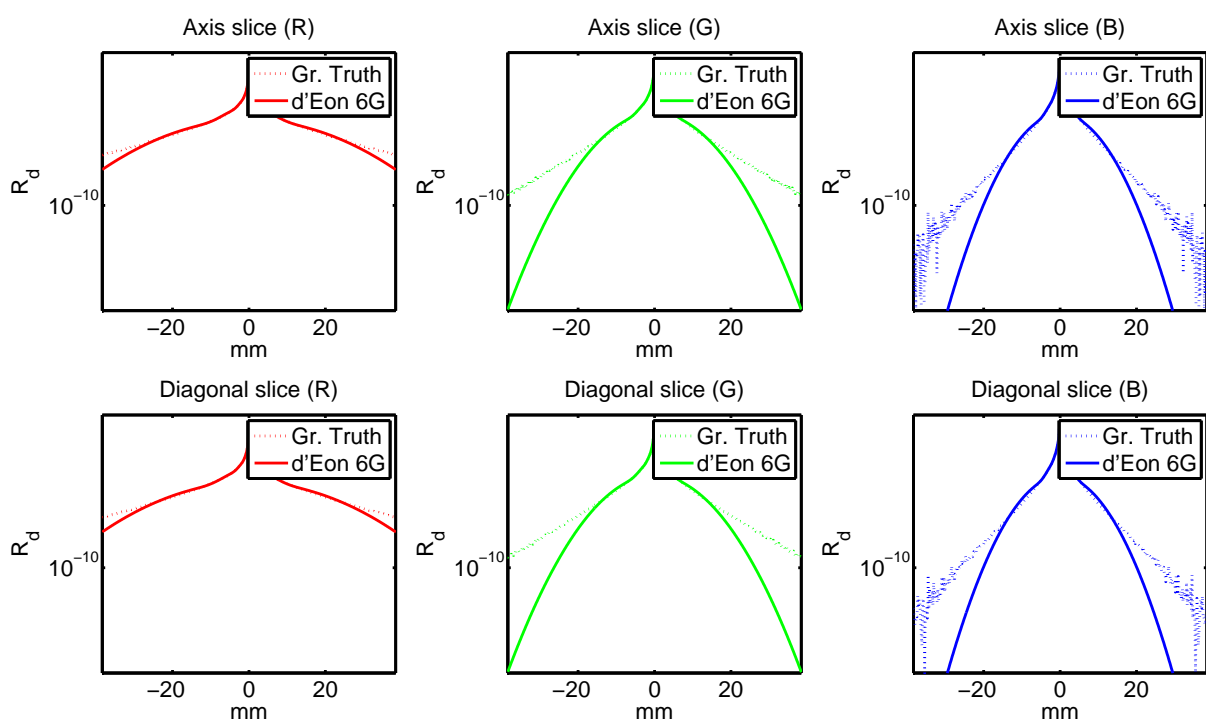


Figure S2.118: Chicken2 - d'Eon 6 Gaussian

O Cream

O.1 Rank-1

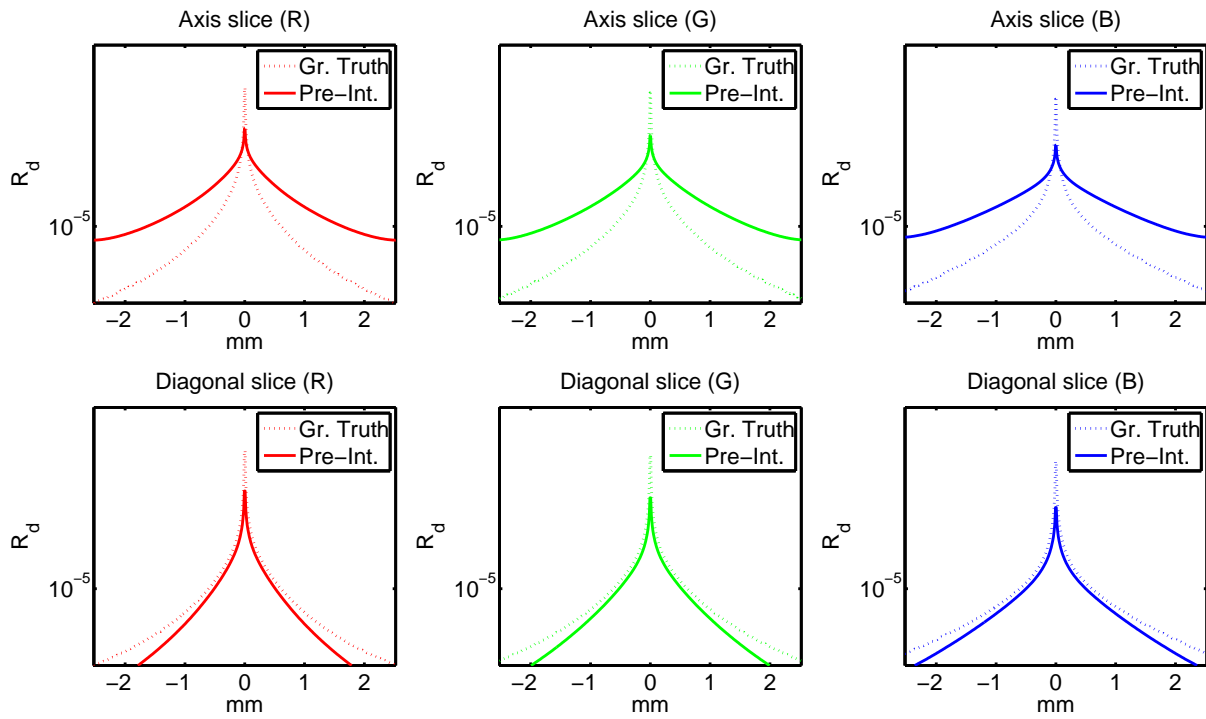


Figure S2.119: Cream - Kernel pre-integration

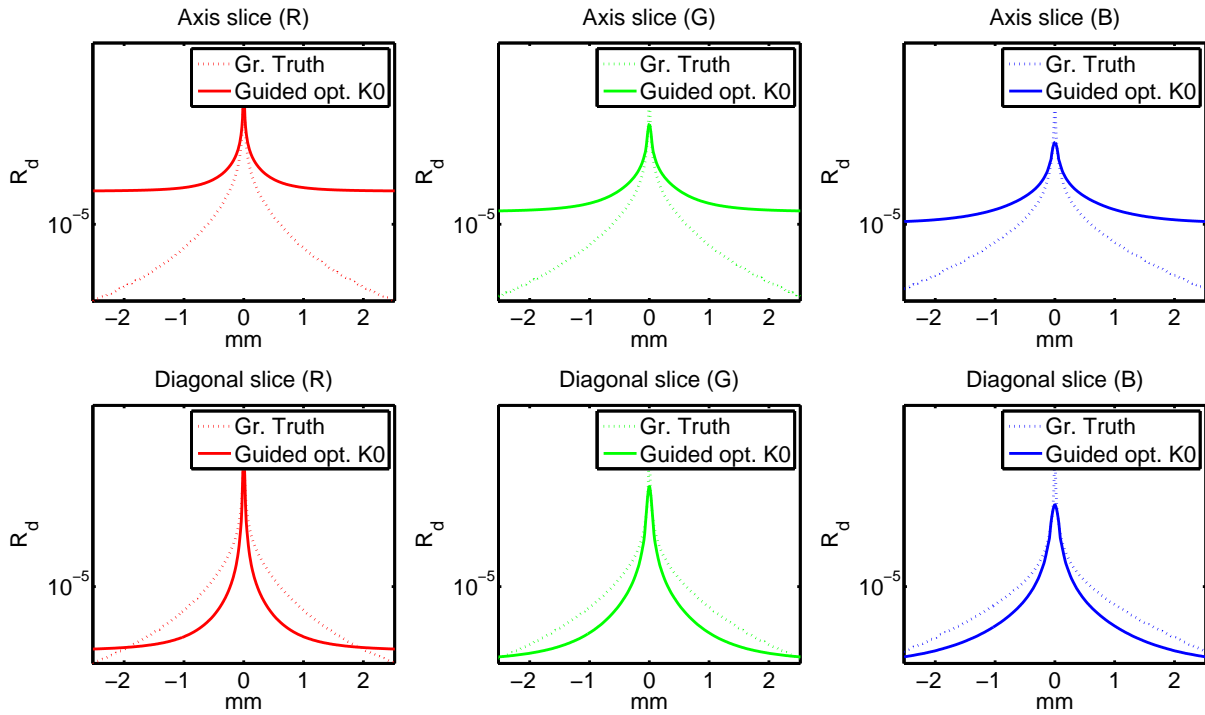


Figure S2.120: Cream - Guided optimization, k=0

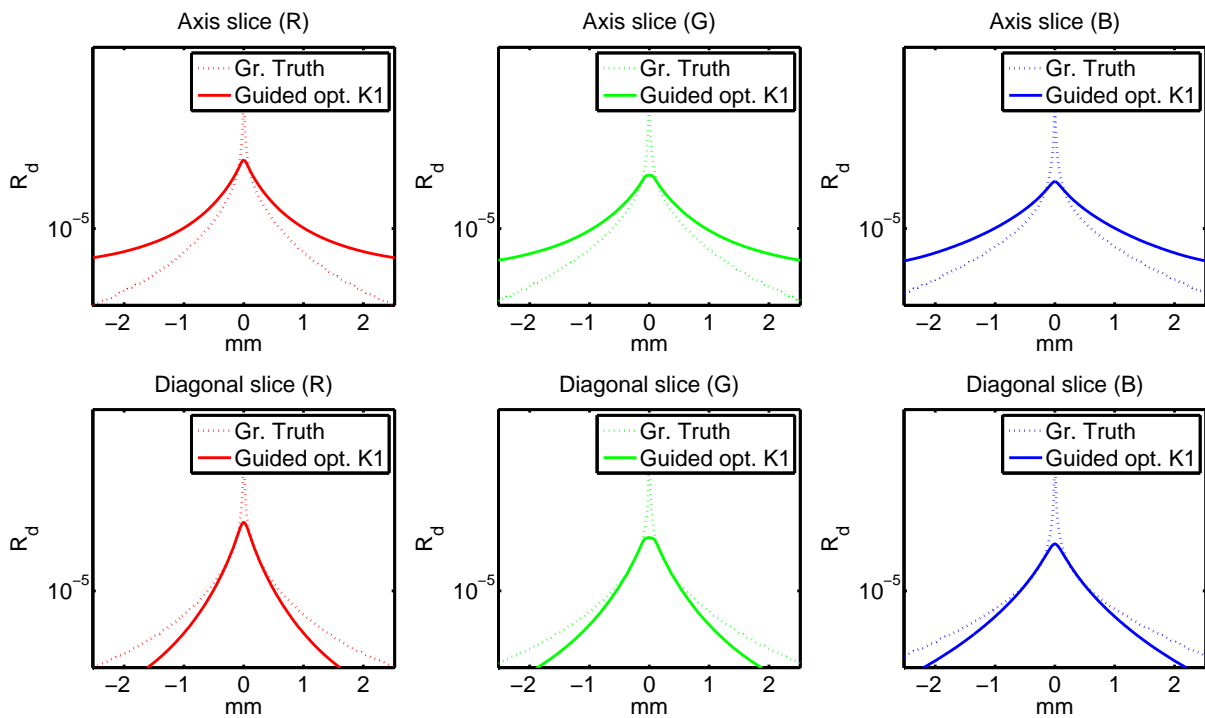


Figure S2.121: Cream - Guided optimization, k=1

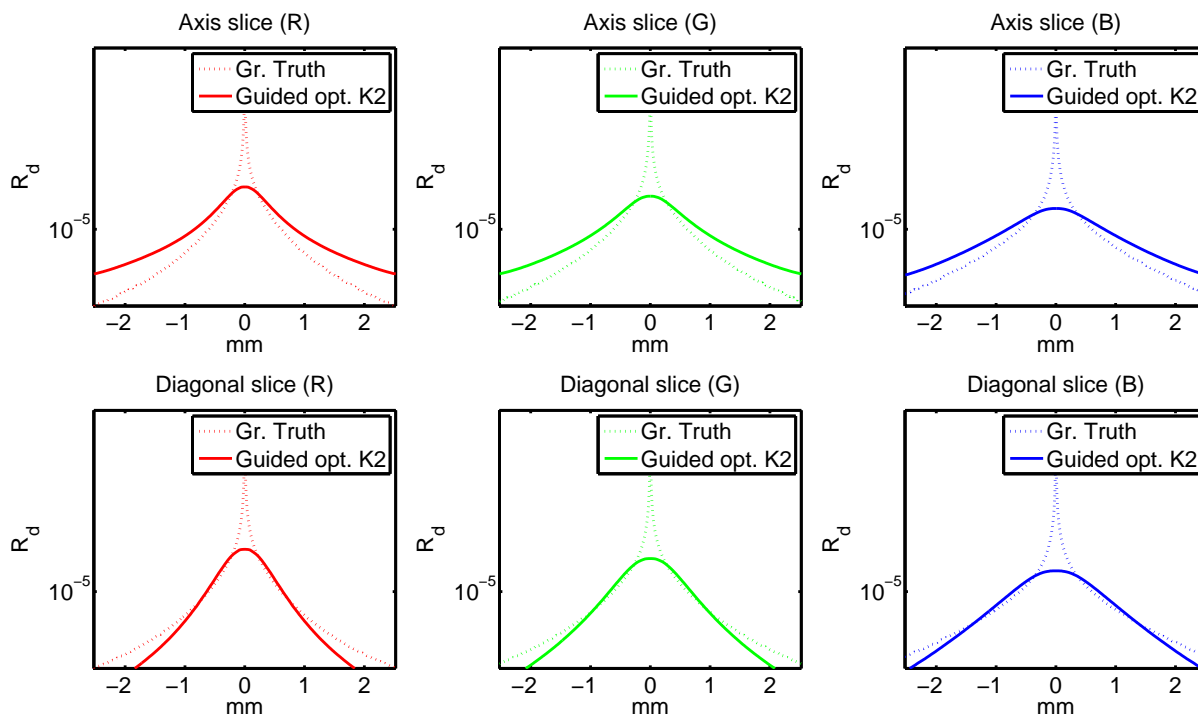


Figure S2.122: Cream - Guided optimization, $k=2$

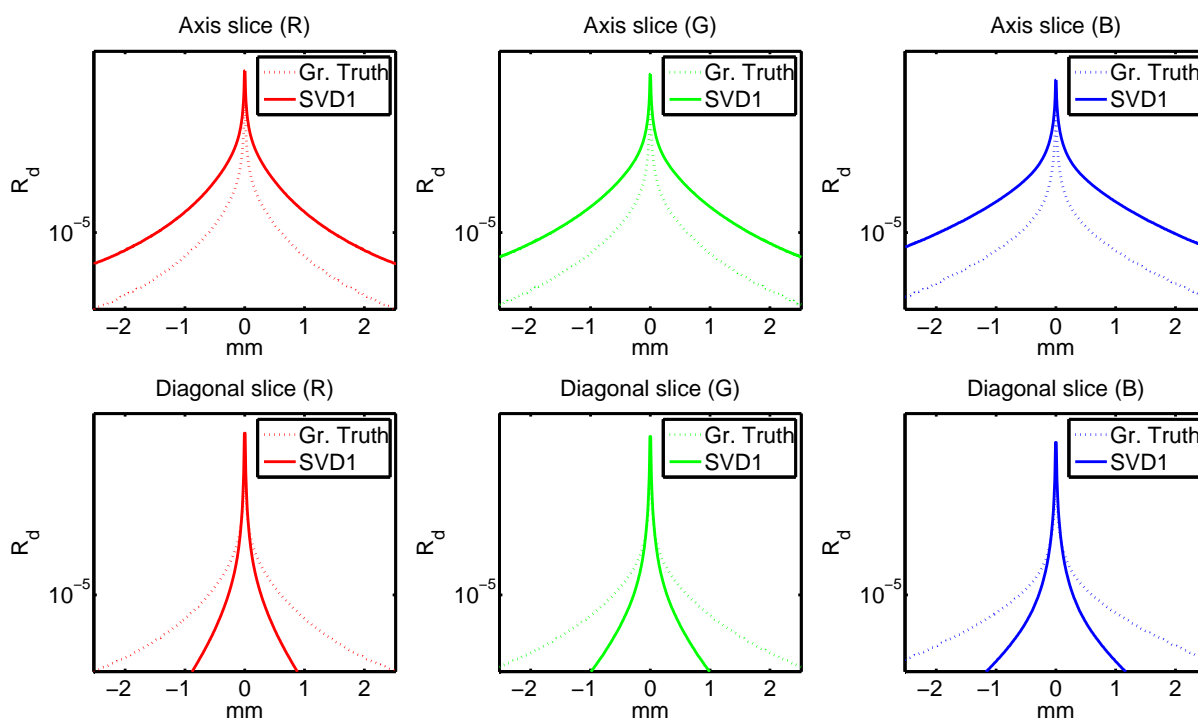


Figure S2.123: Cream - SVD rank-1

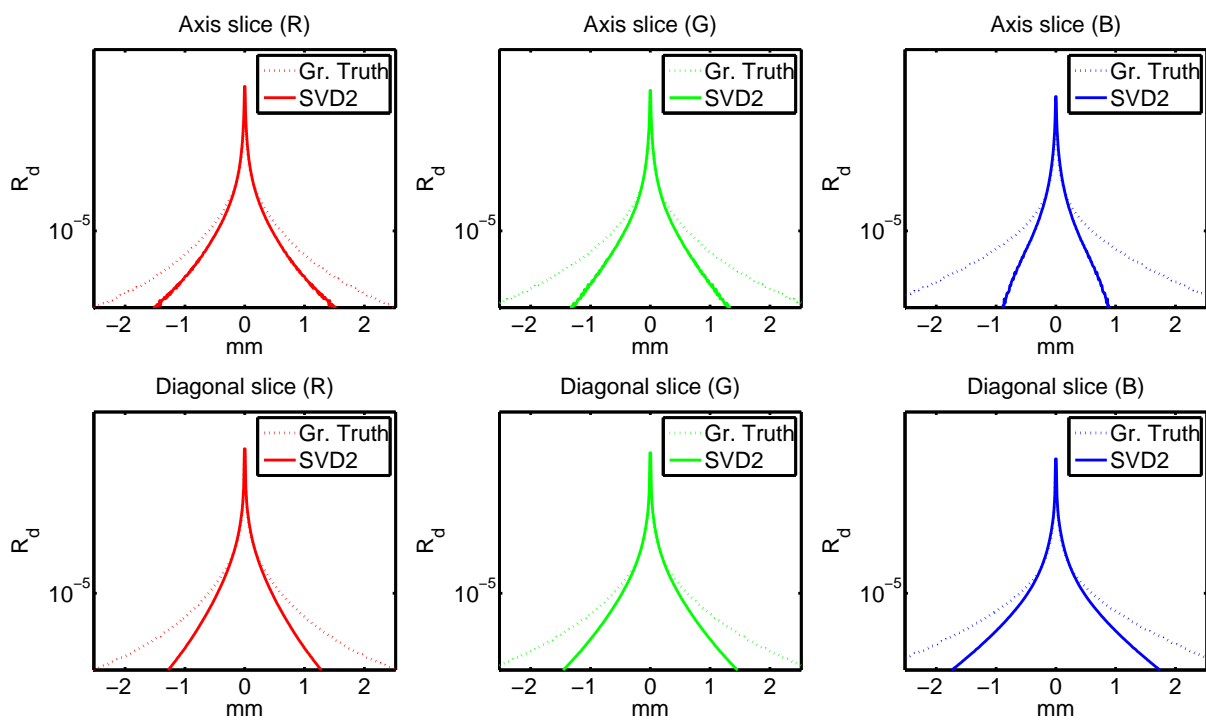


Figure S2.124: Cream - SVD rank-2

O.2 SVD

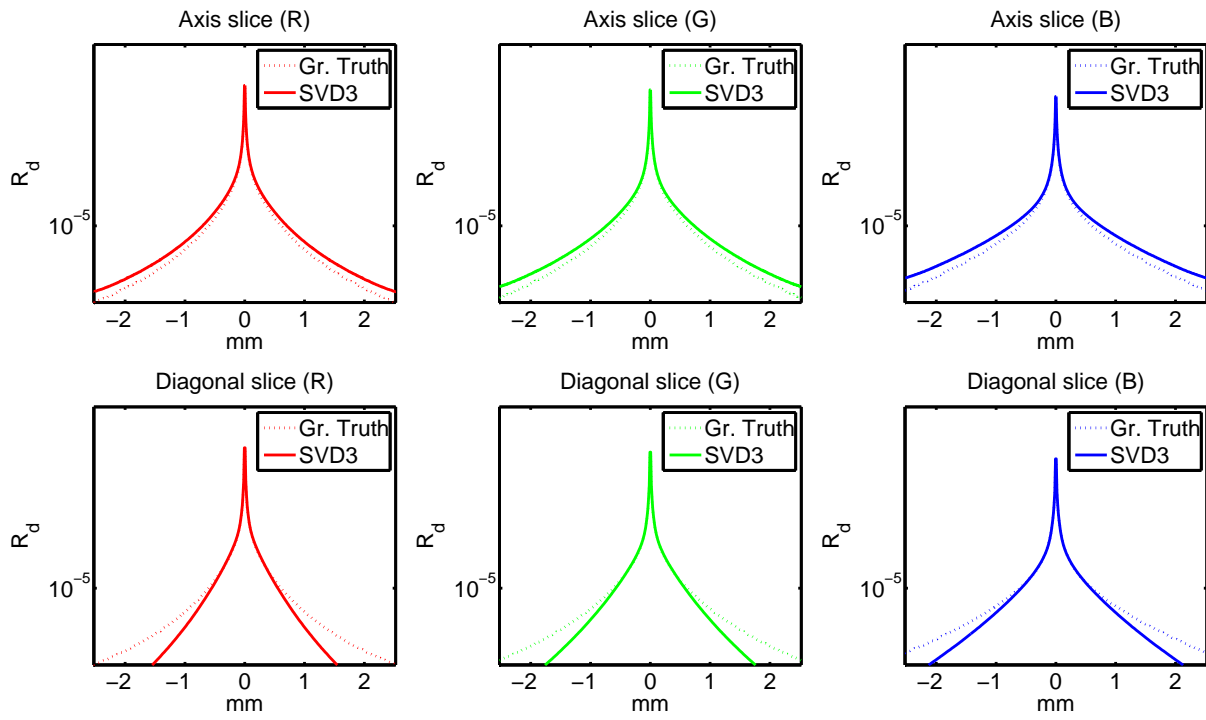


Figure S2.125: Cream - SVD rank-3

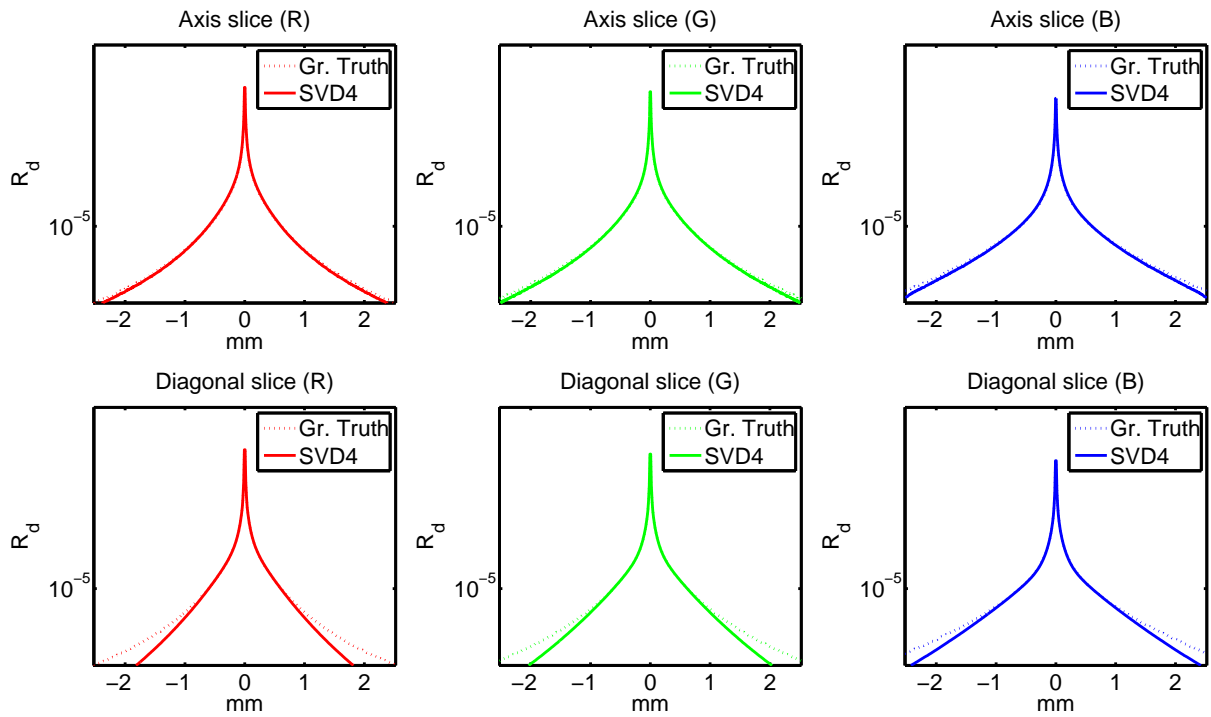


Figure S2.126: Cream - SVD rank-4

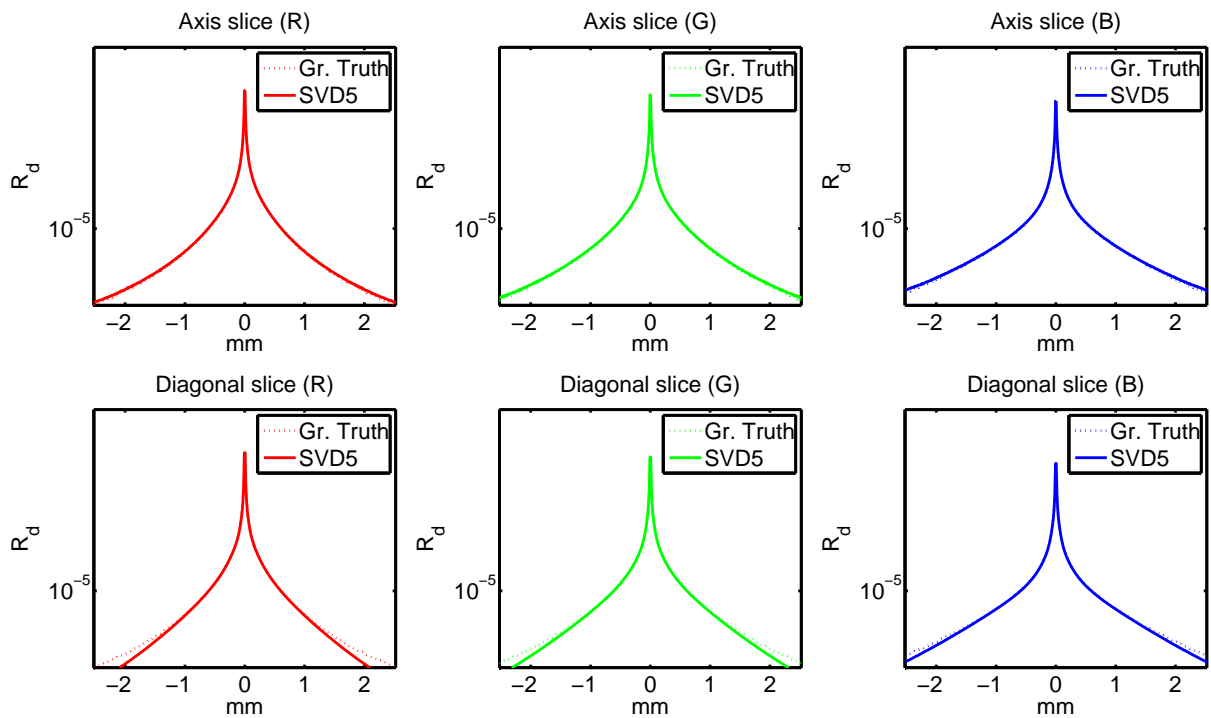


Figure S2.127: Cream - SVD rank-5

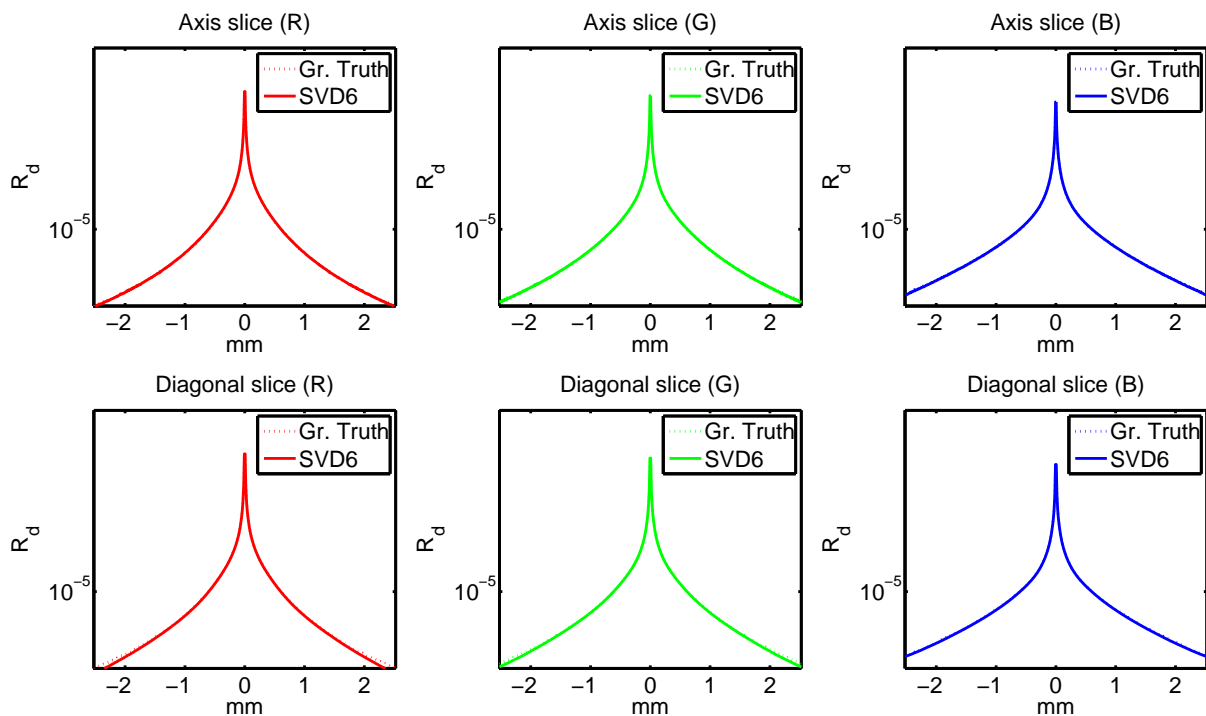


Figure S2.128: Cream - SVD rank-6

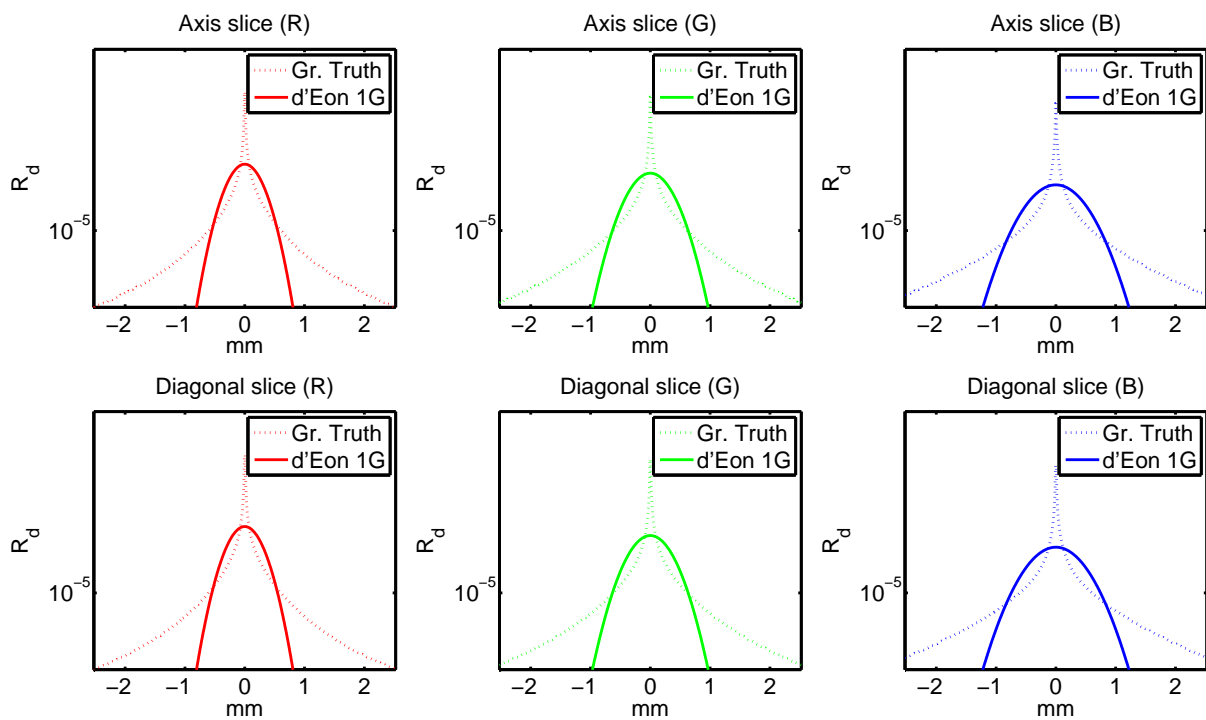


Figure S2.129: Cream - d'Eon 1 Gaussian

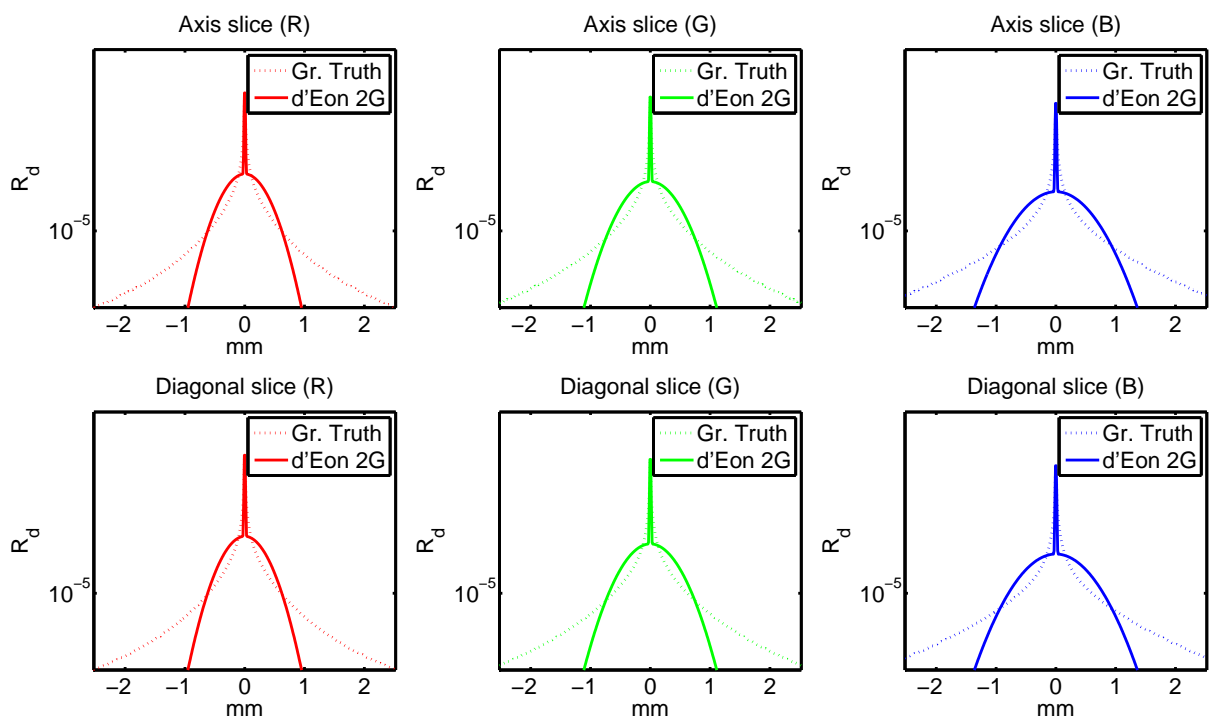


Figure S2.130: Cream - d'Eon 2 Gaussian

O.3 d'Eon

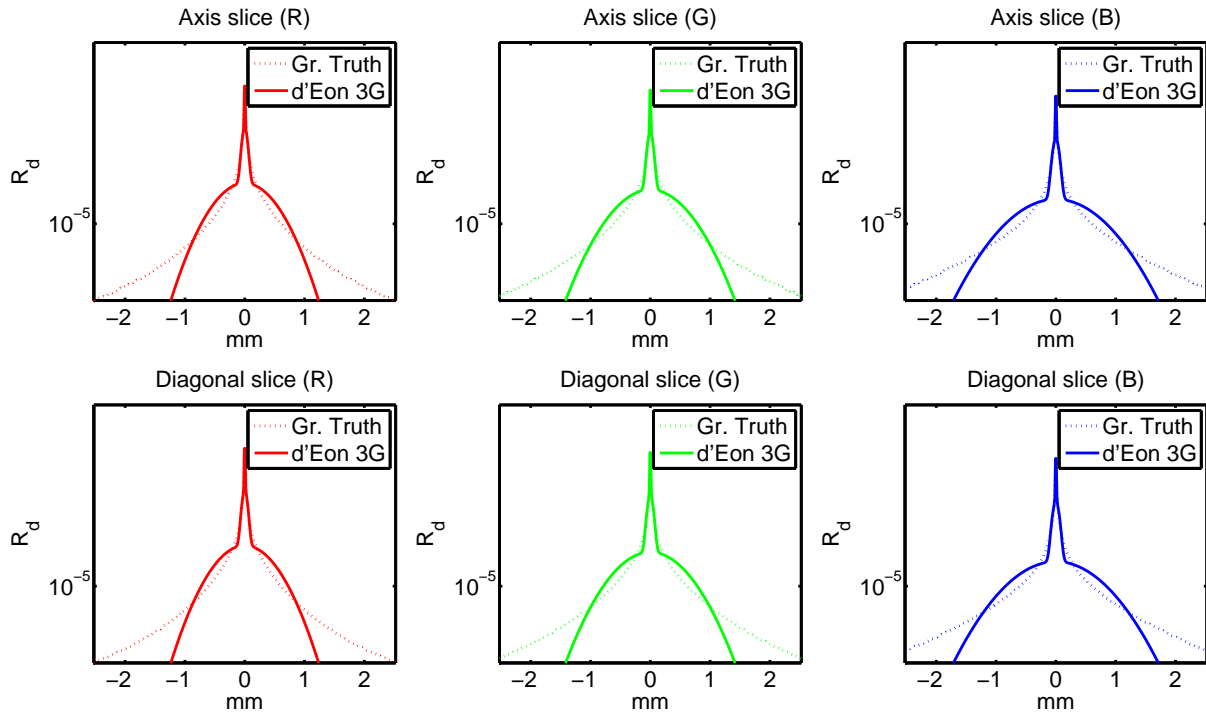


Figure S2.131: Cream - d'Eon 3 Gaussian

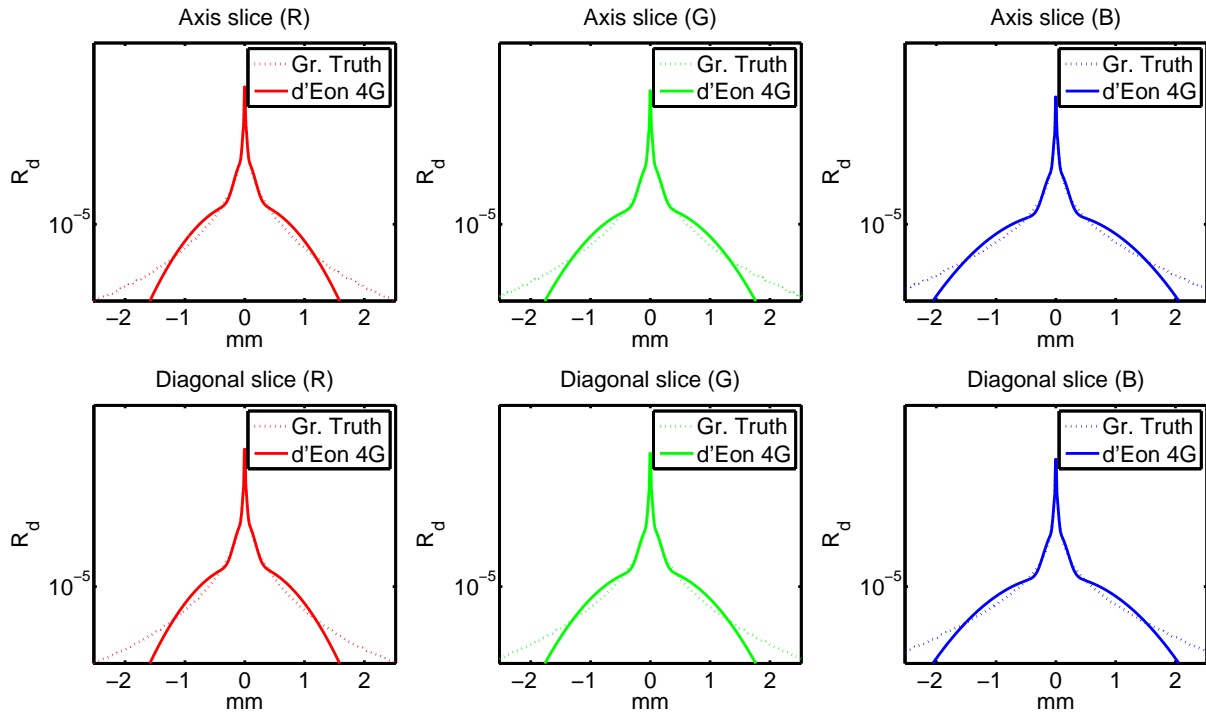


Figure S2.132: Cream - d'Eon 4 Gaussian

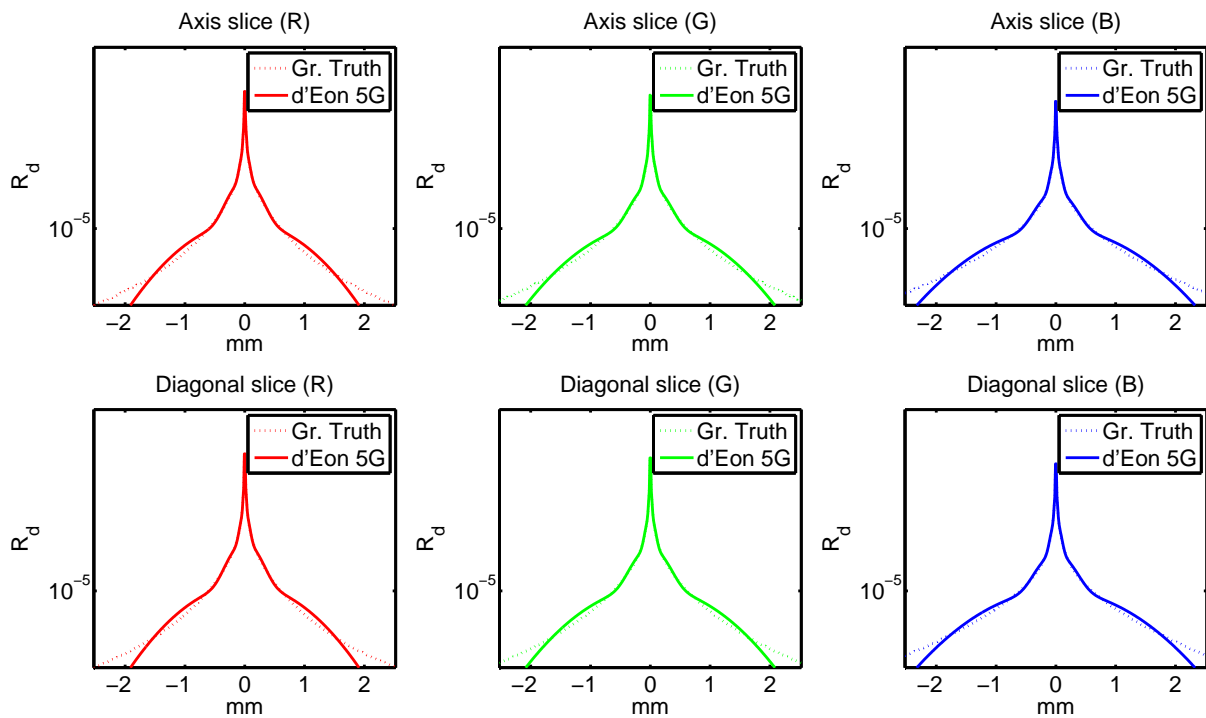


Figure S2.133: Cream - d'Eon 5 Gaussian

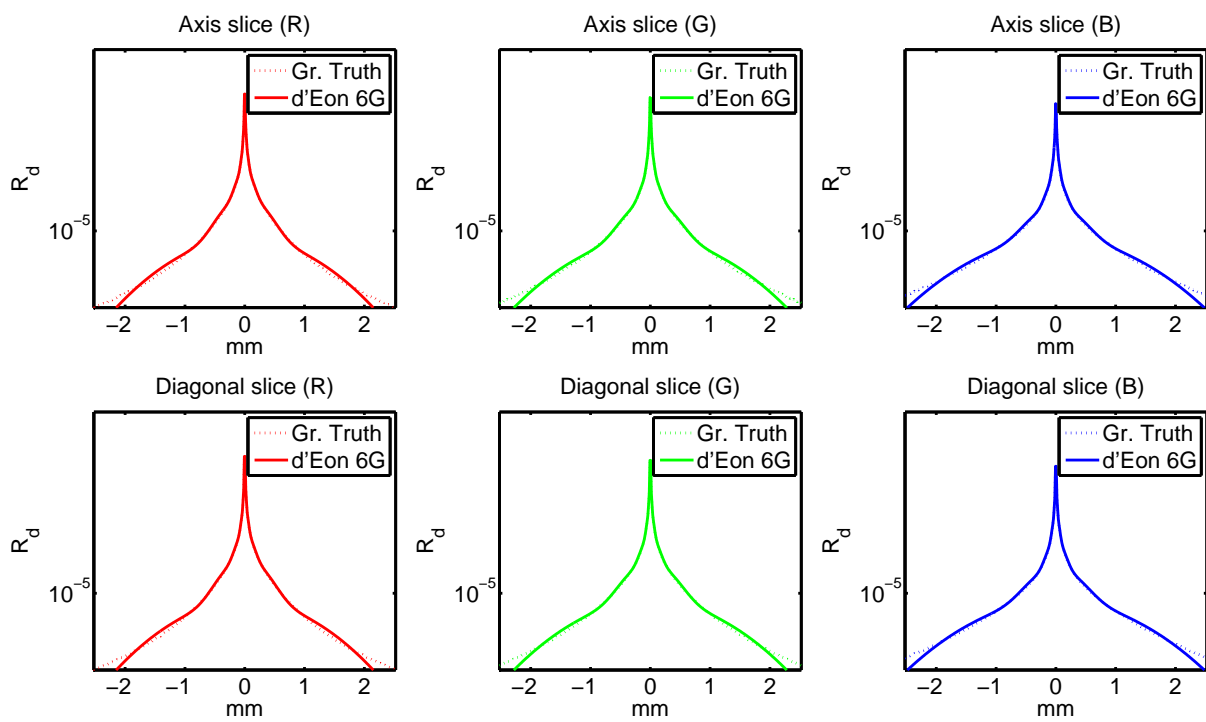


Figure S2.134: Cream - d'Eon 6 Gaussian

P Potato

P.1 Rank-1

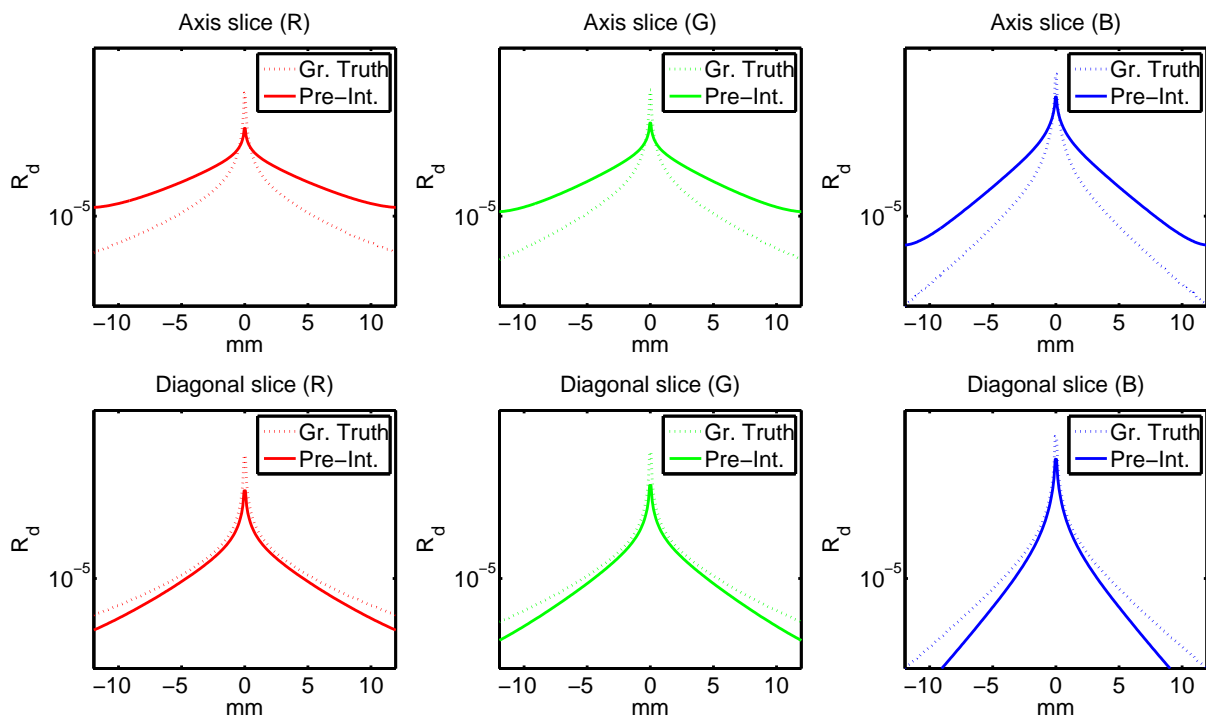


Figure S2.135: Potato - Kernel pre-integration

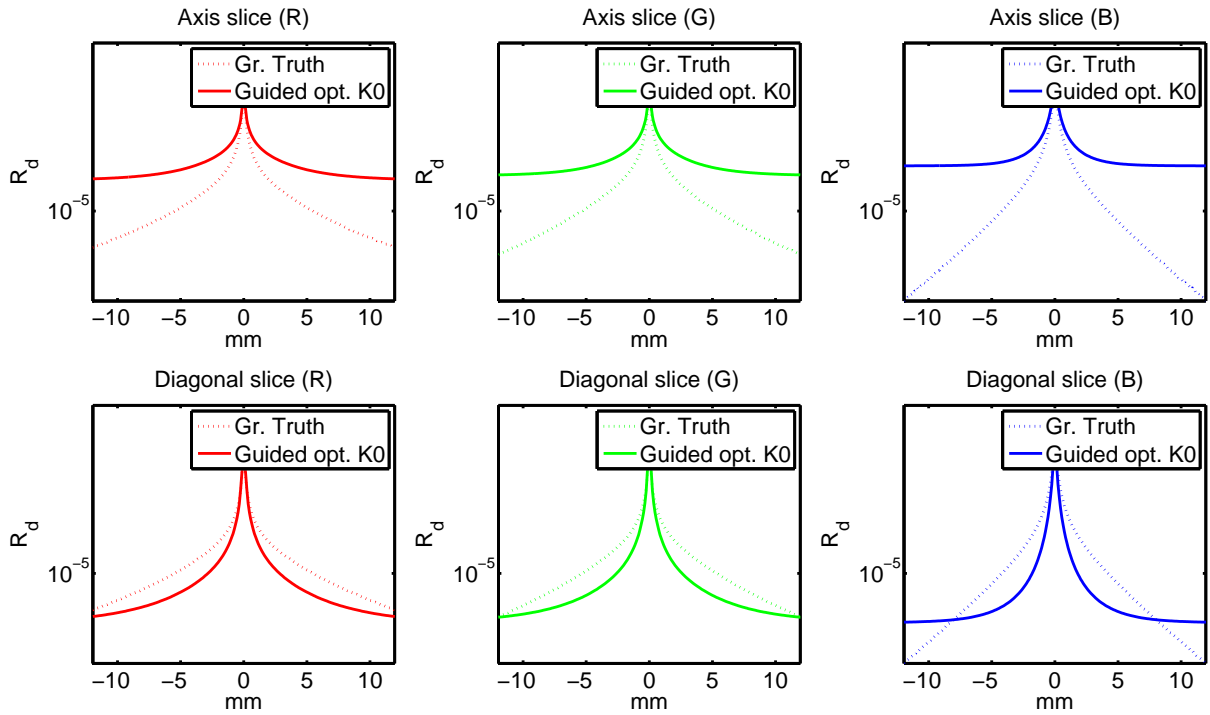


Figure S2.136: Potato - Guided optimization, $k=0$

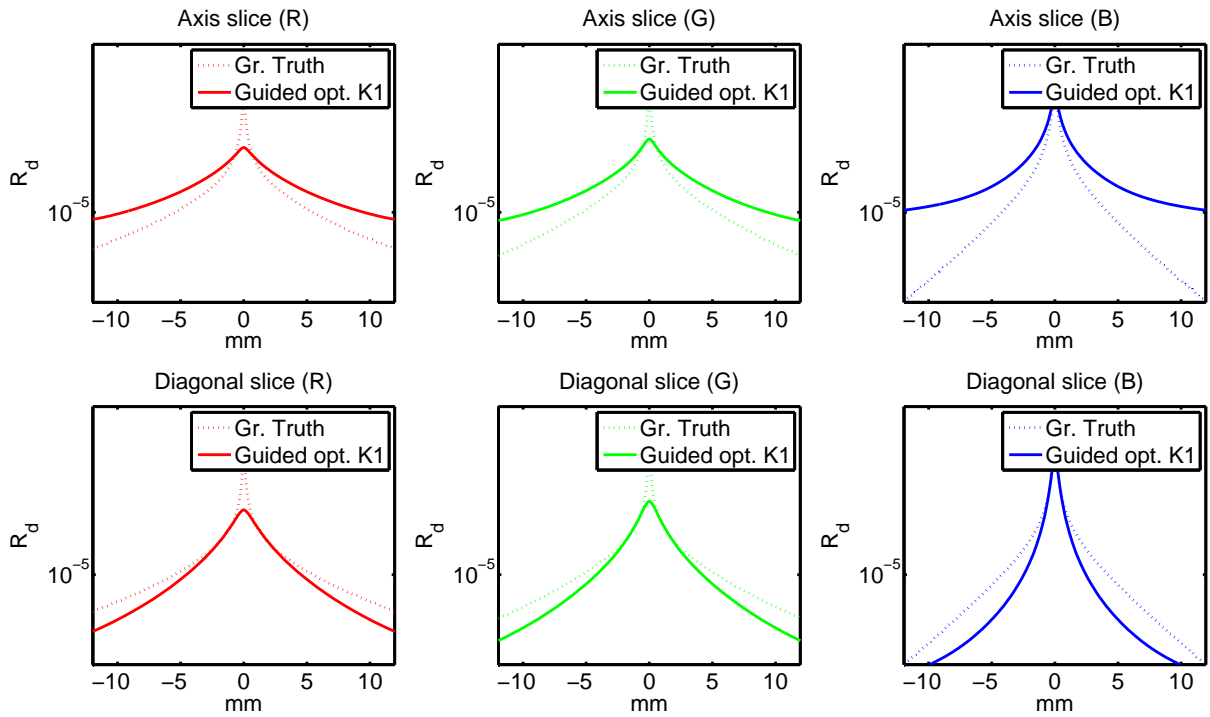


Figure S2.137: Potato - Guided optimization, $k=1$

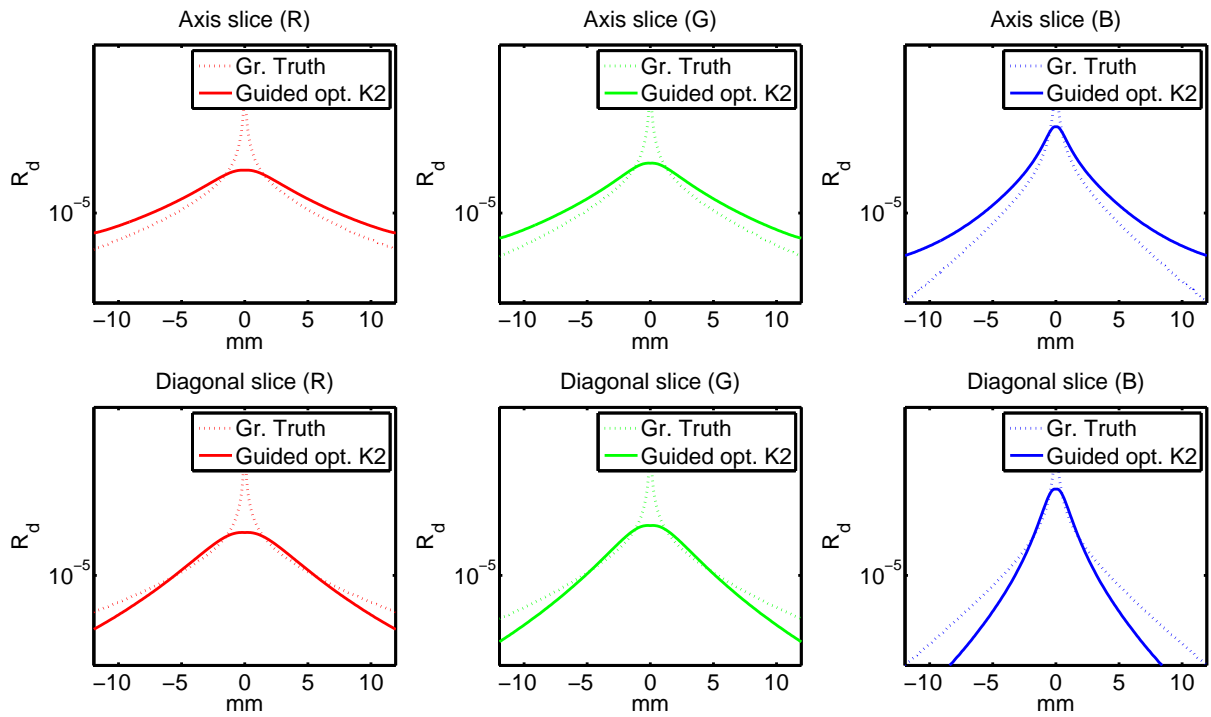


Figure S2.138: Potato - Guided optimization, $k=2$

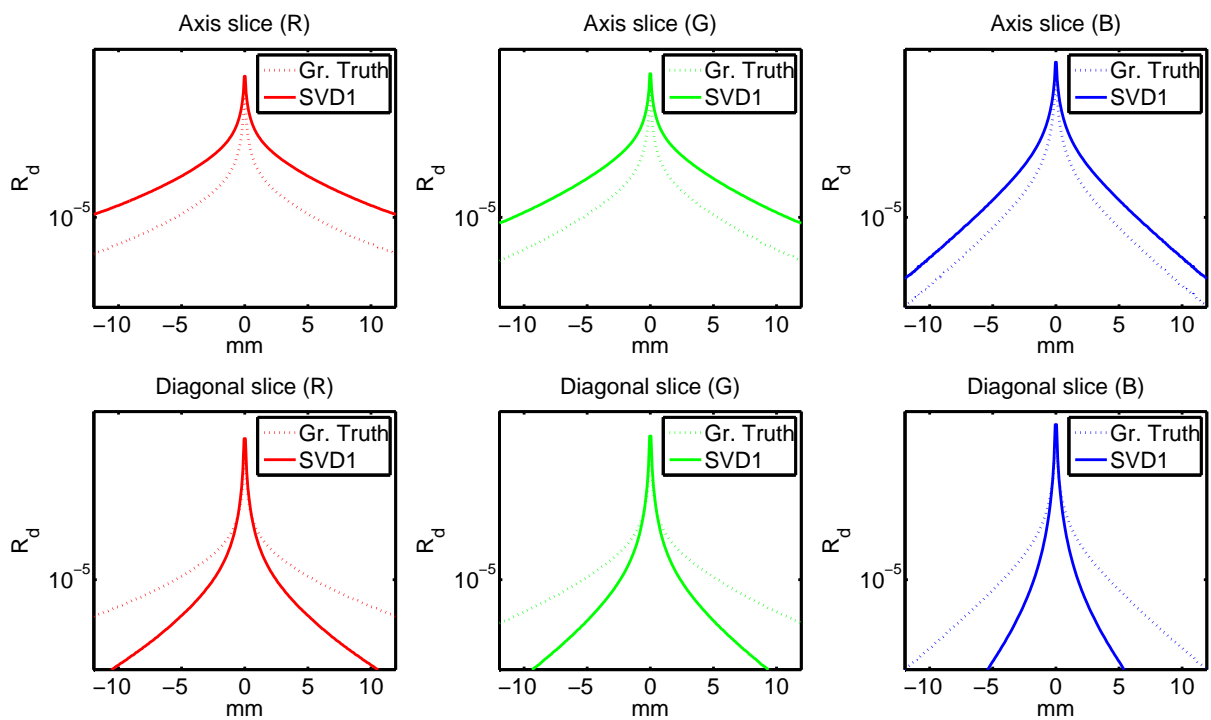


Figure S2.139: Potato - SVD rank-1

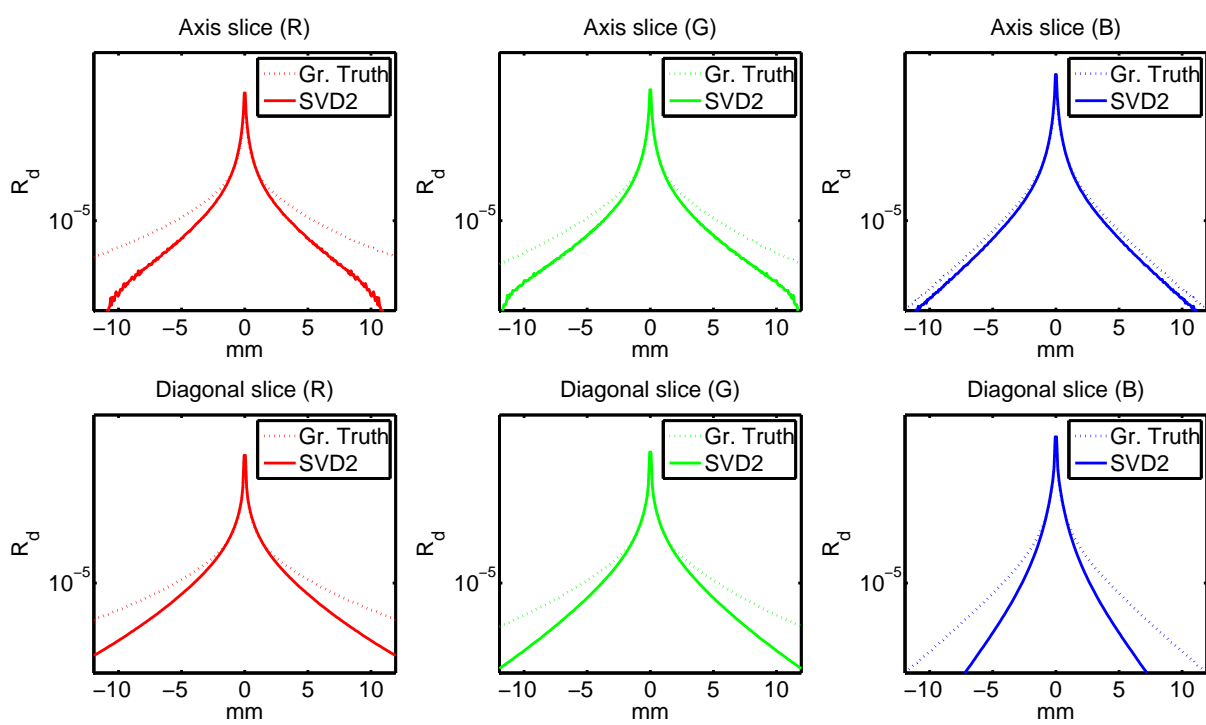


Figure S2.140: Potato - SVD rank-2

P.2 SVD

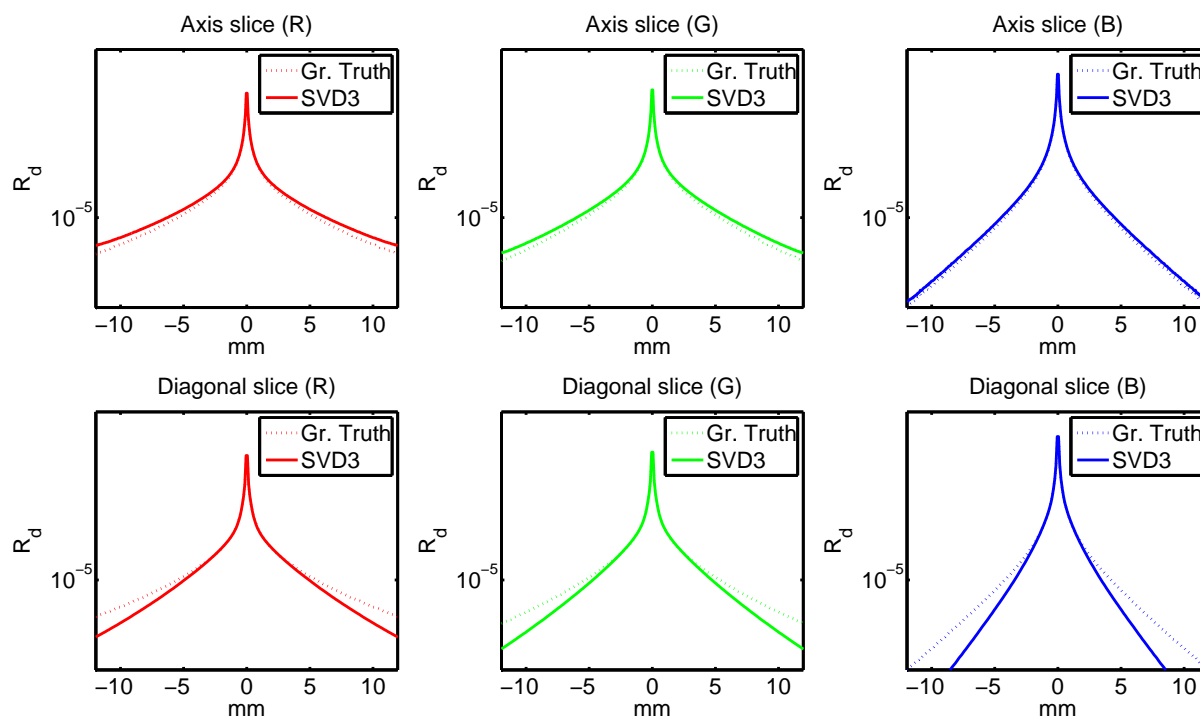


Figure S2.141: Potato - SVD rank-3

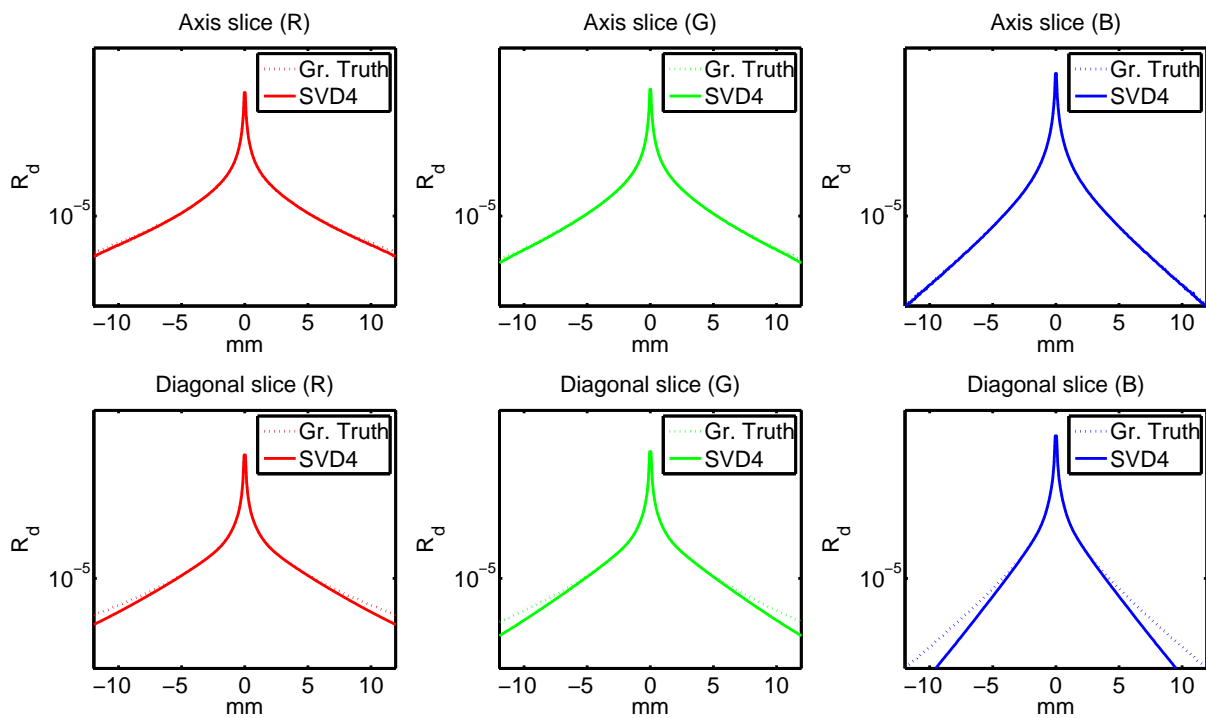


Figure S2.142: Potato - SVD rank-4

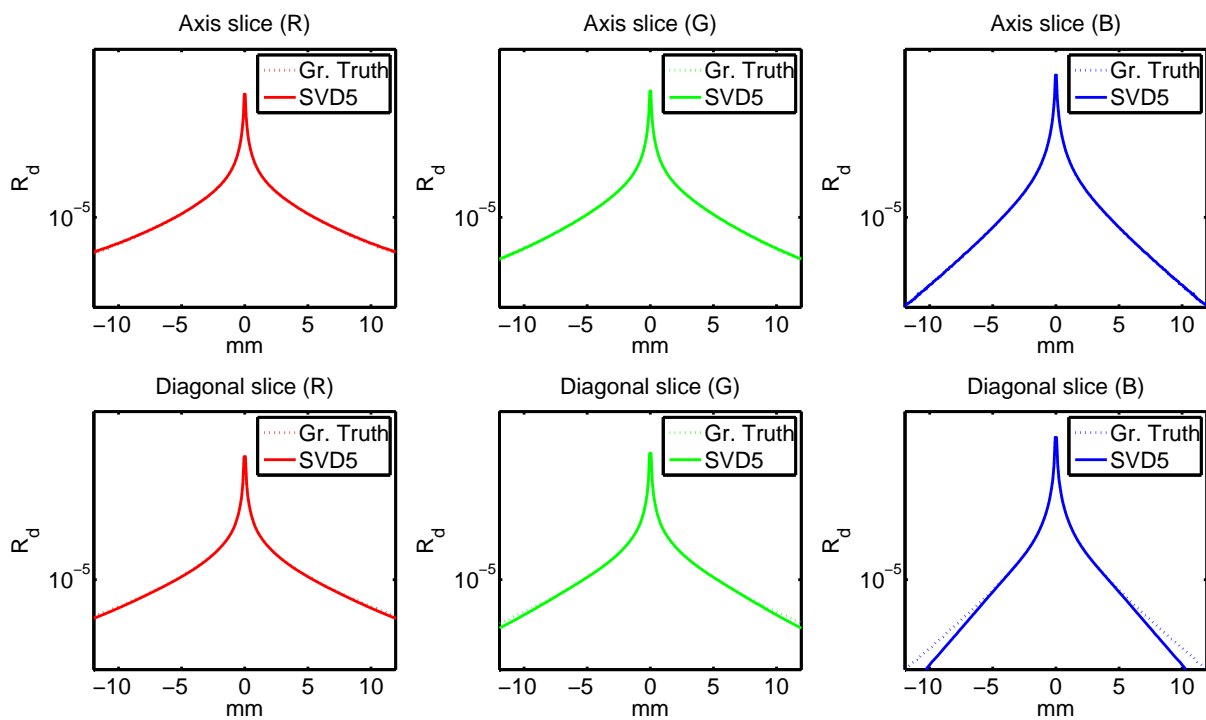


Figure S2.143: Potato - SVD rank-5

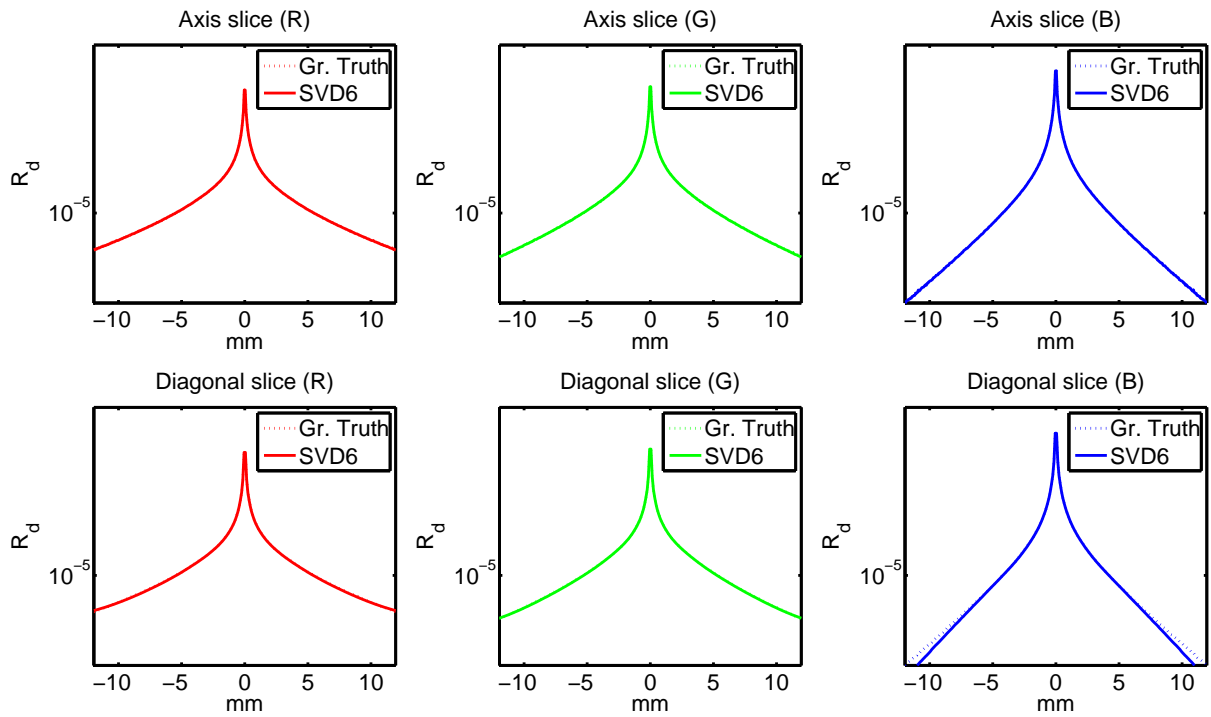


Figure S2.144: Potato - SVD rank-6

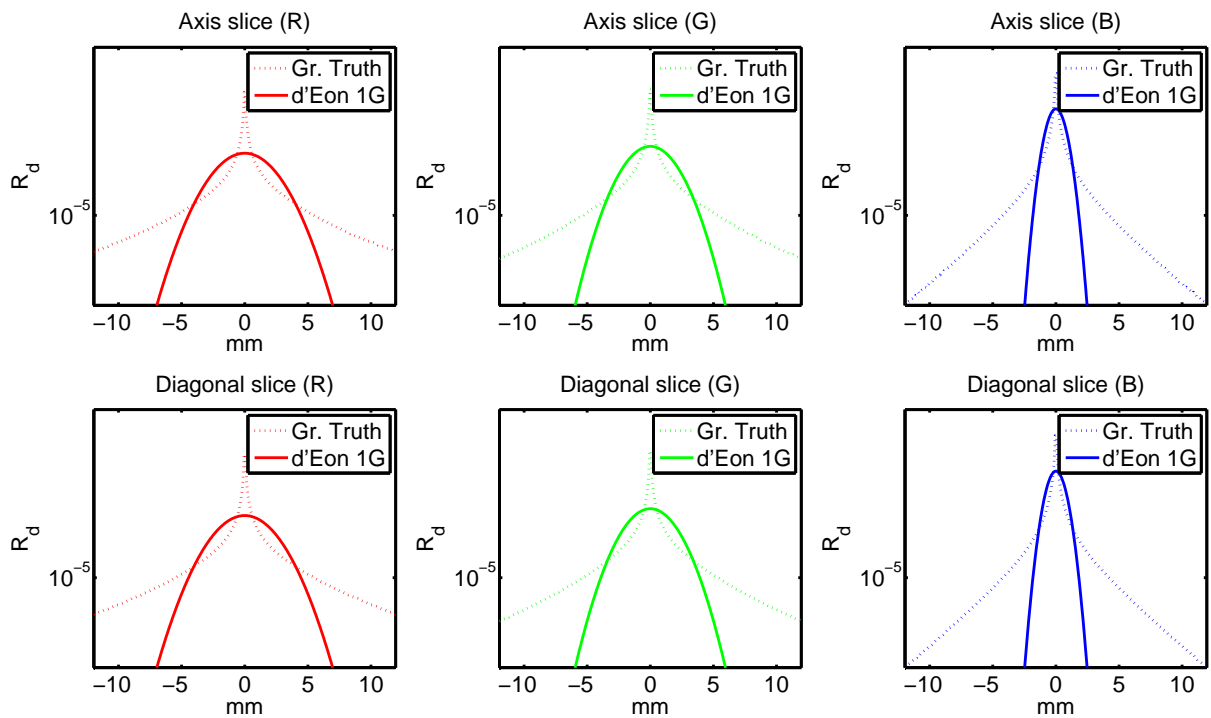


Figure S2.145: Potato - d'Eon 1 Gaussian

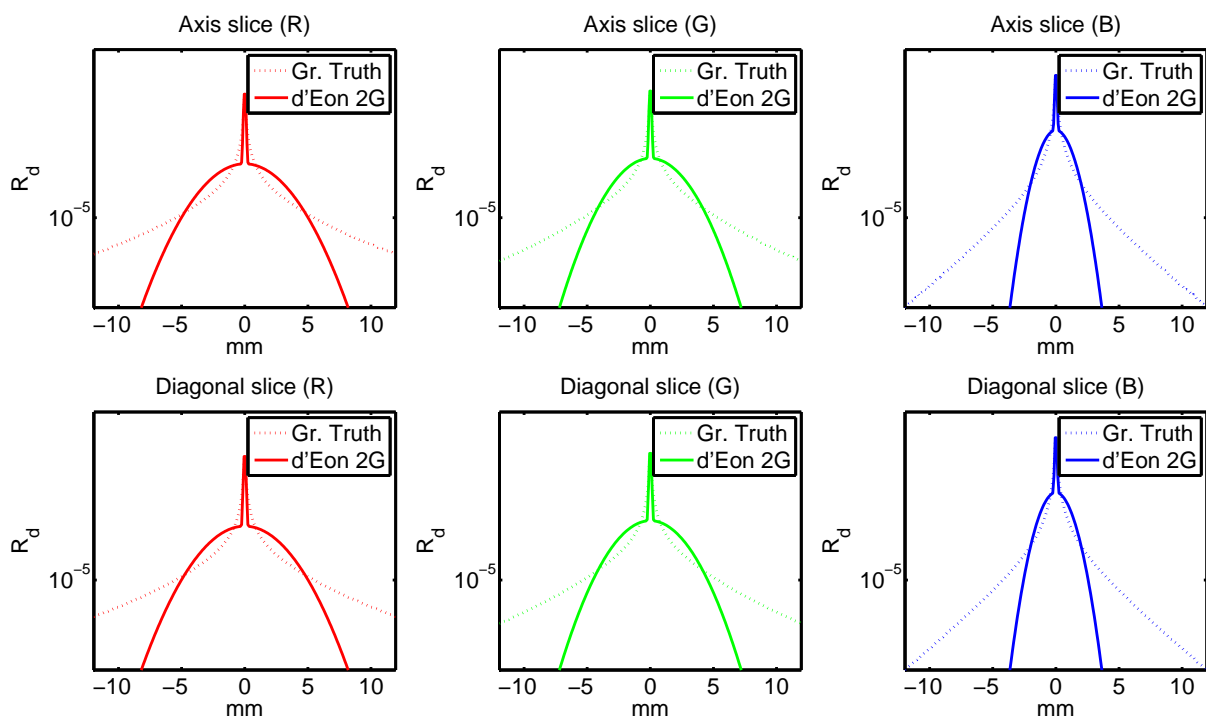


Figure S2.146: Potato - d'Eon 2 Gaussian

P.3 d'Eon

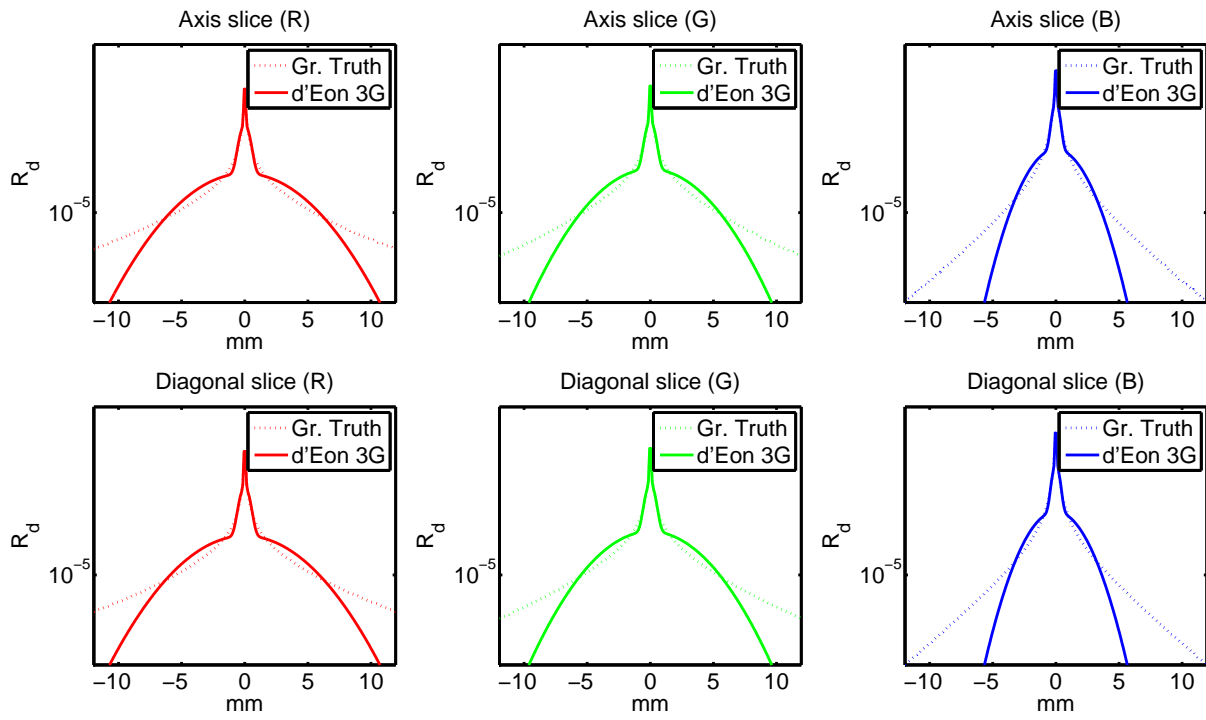


Figure S2.147: Potato - d'Eon 3 Gaussian

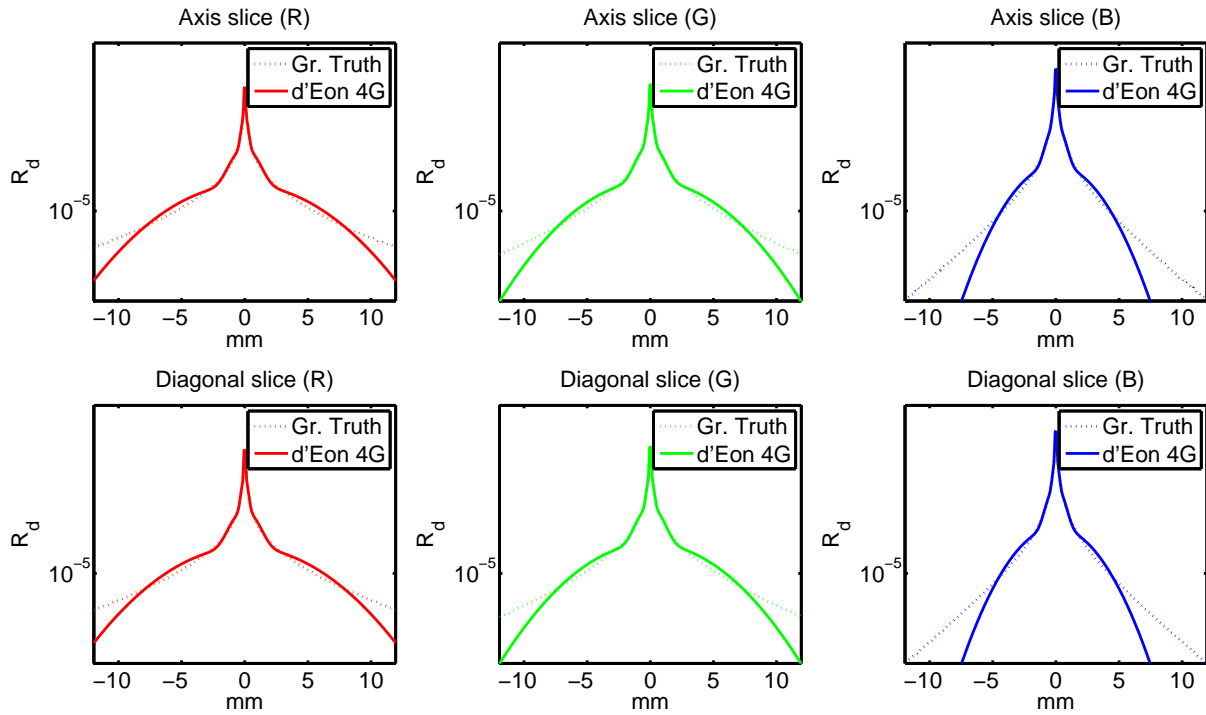


Figure S2.148: Potato - d'Eon 4 Gaussian

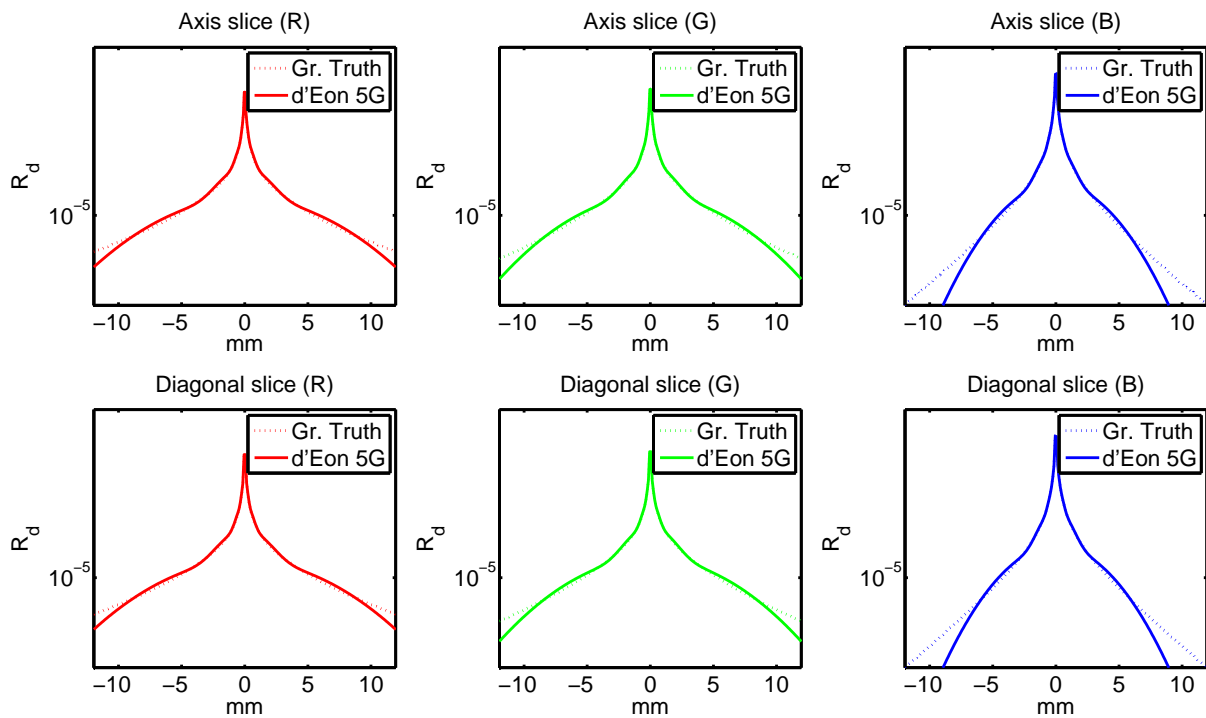


Figure S2.149: Potato - d'Eon 5 Gaussian

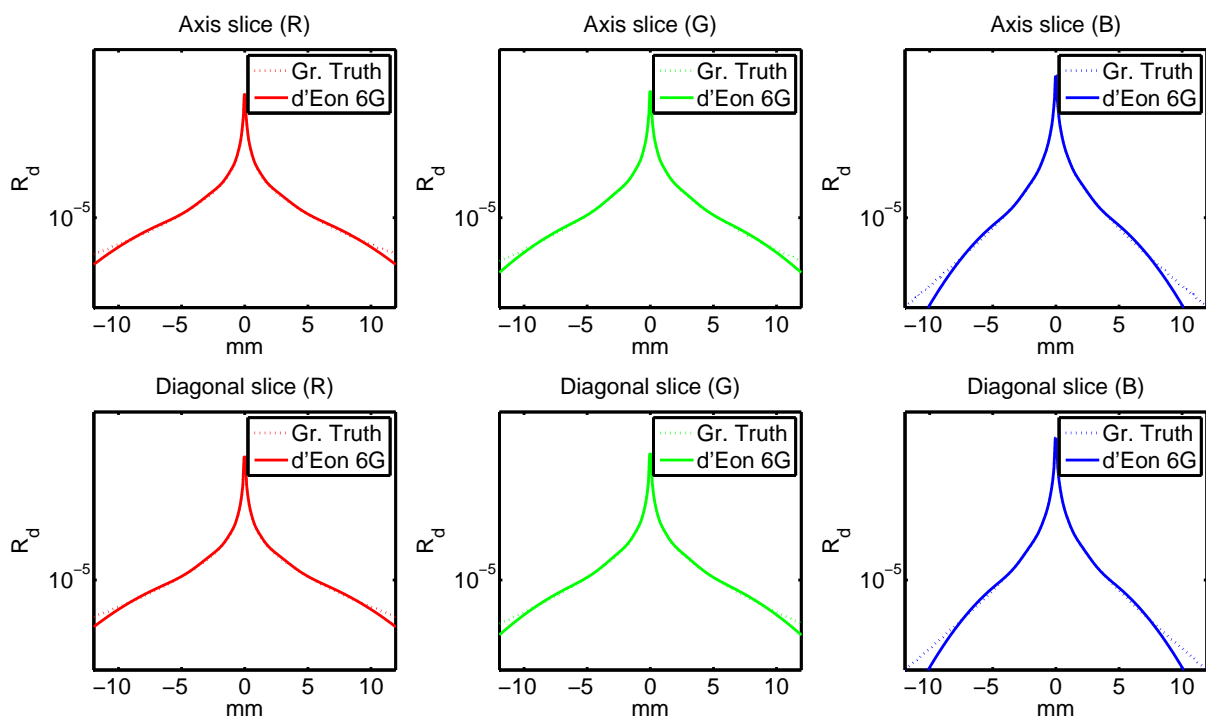


Figure S2.150: Potato - d'Eon 6 Gaussian

Q Skimmilk

Q.1 Rank-1

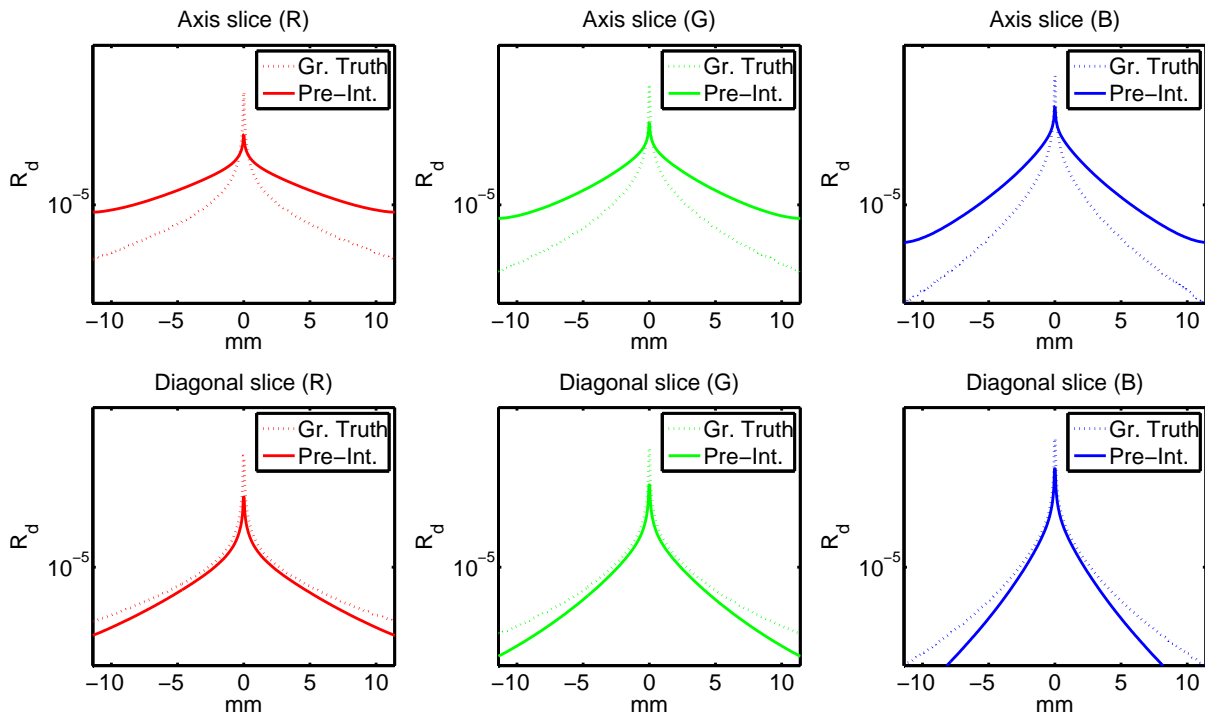


Figure S2.151: Skimmilk - Kernel pre-integration

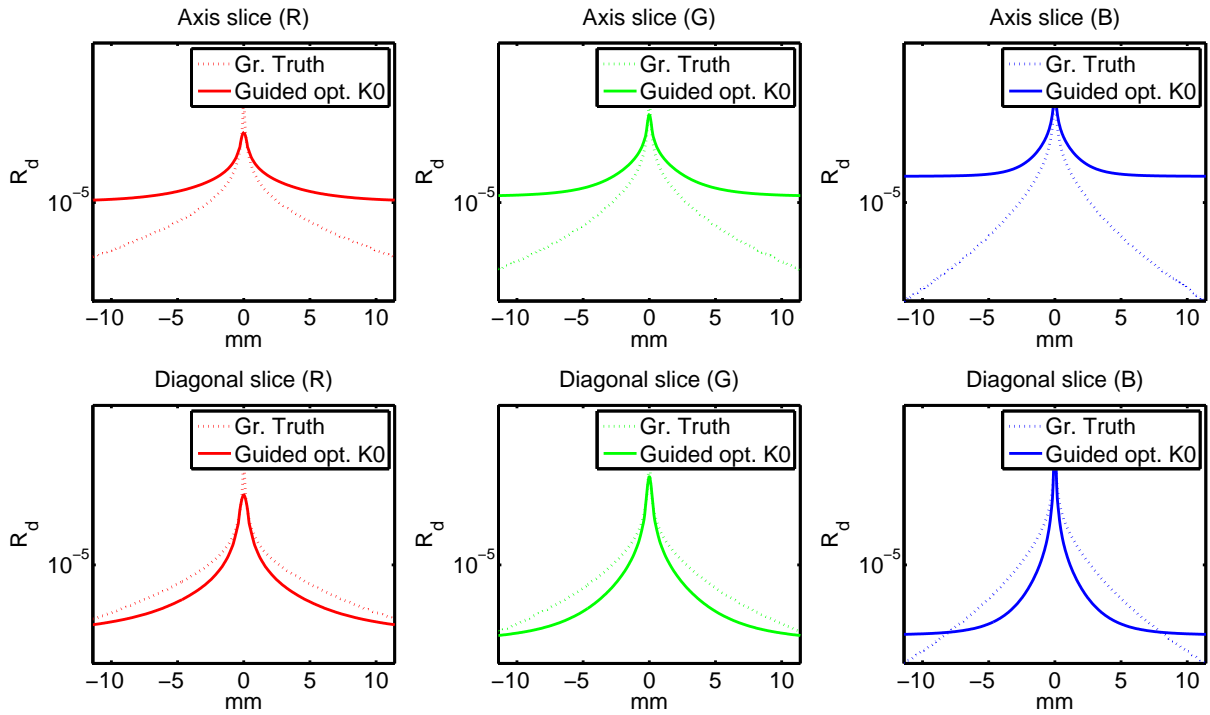


Figure S2.152: Skimmilk - Guided optimization, k=0

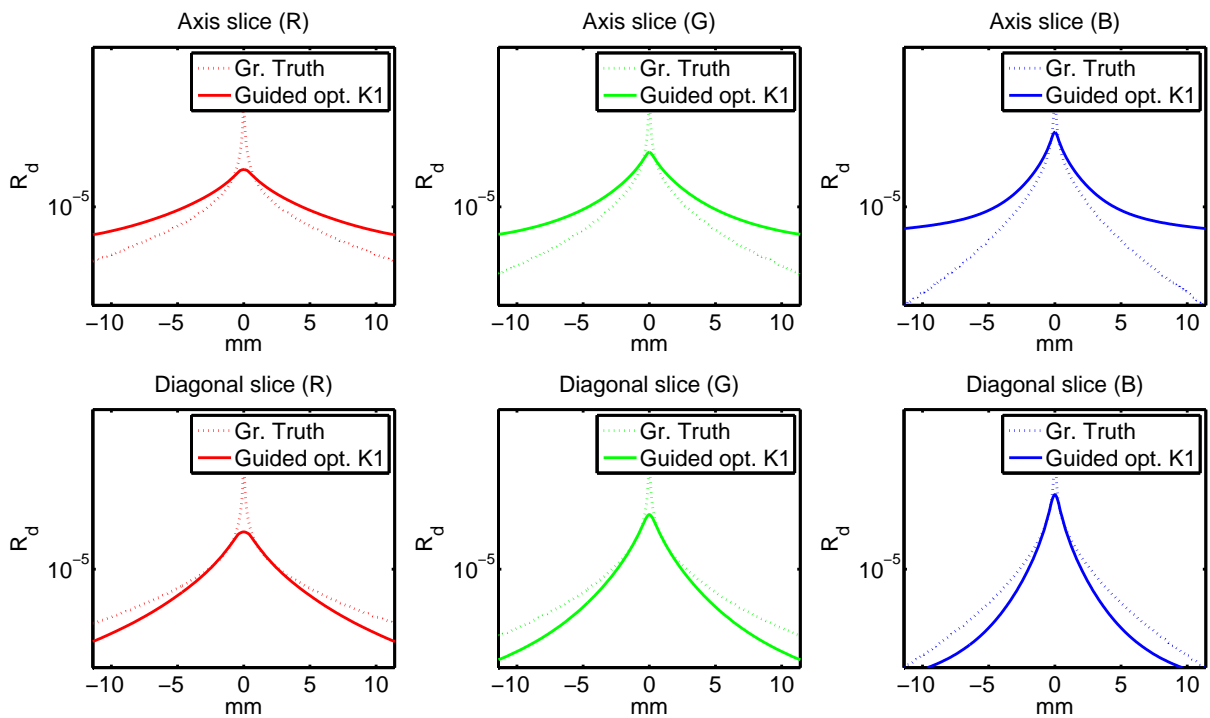


Figure S2.153: Skimmilk - Guided optimization, k=1

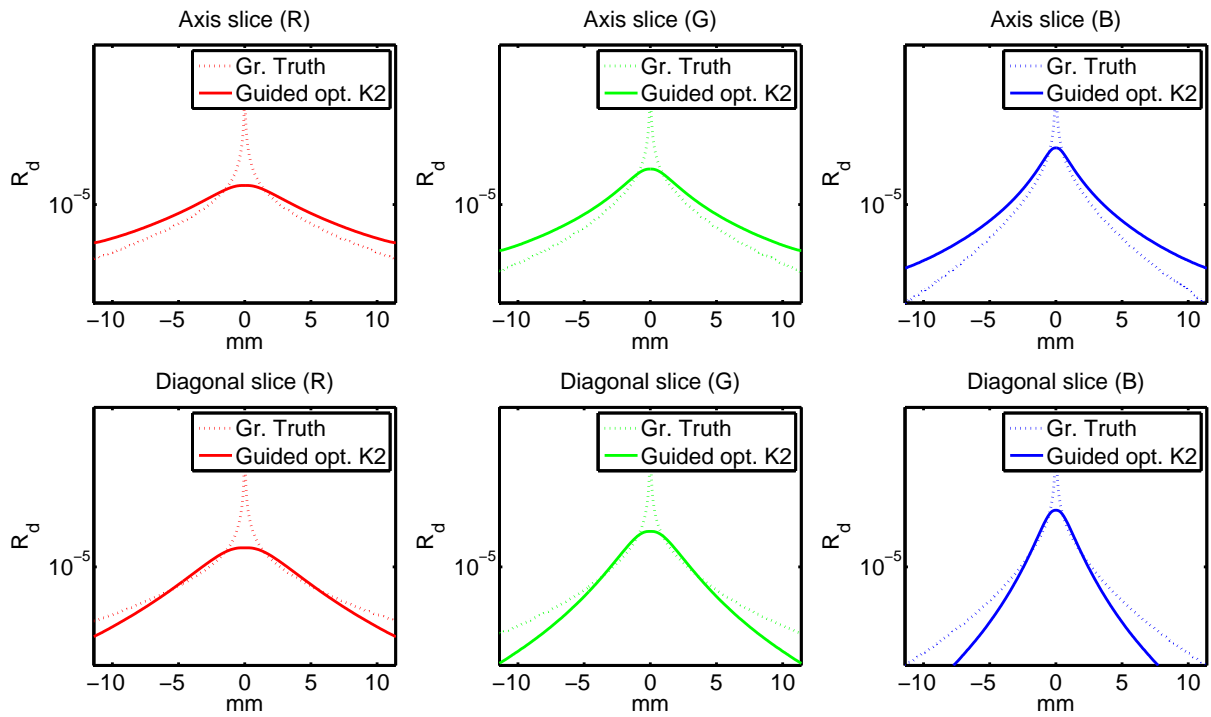


Figure S2.154: Skimmilk - Guided optimization, $k=2$

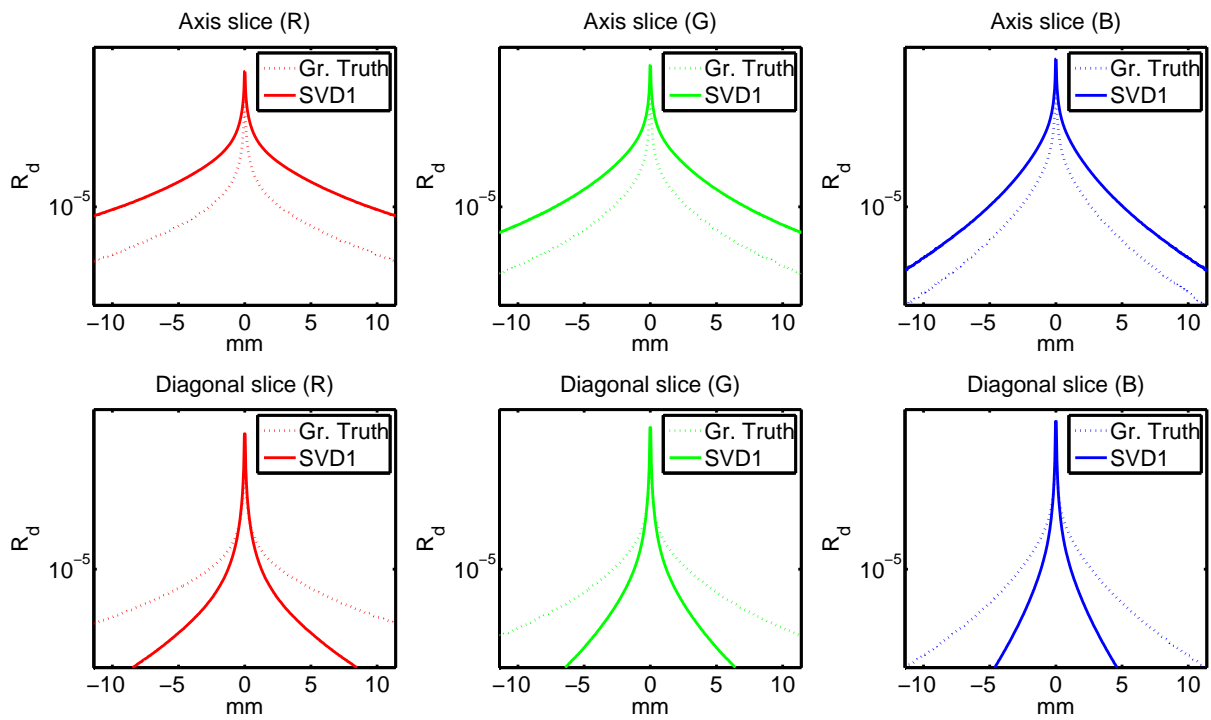


Figure S2.155: Skimmilk - SVD rank-1

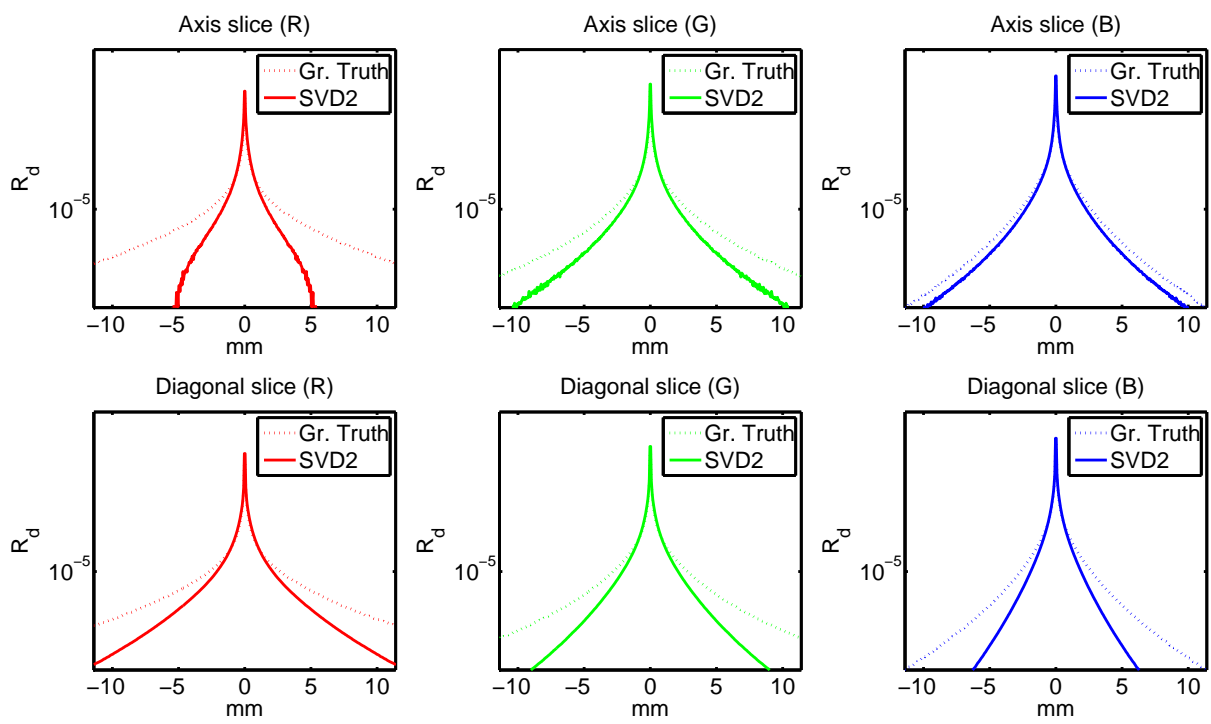


Figure S2.156: Skimmilk - SVD rank-2

Q.2 SVD

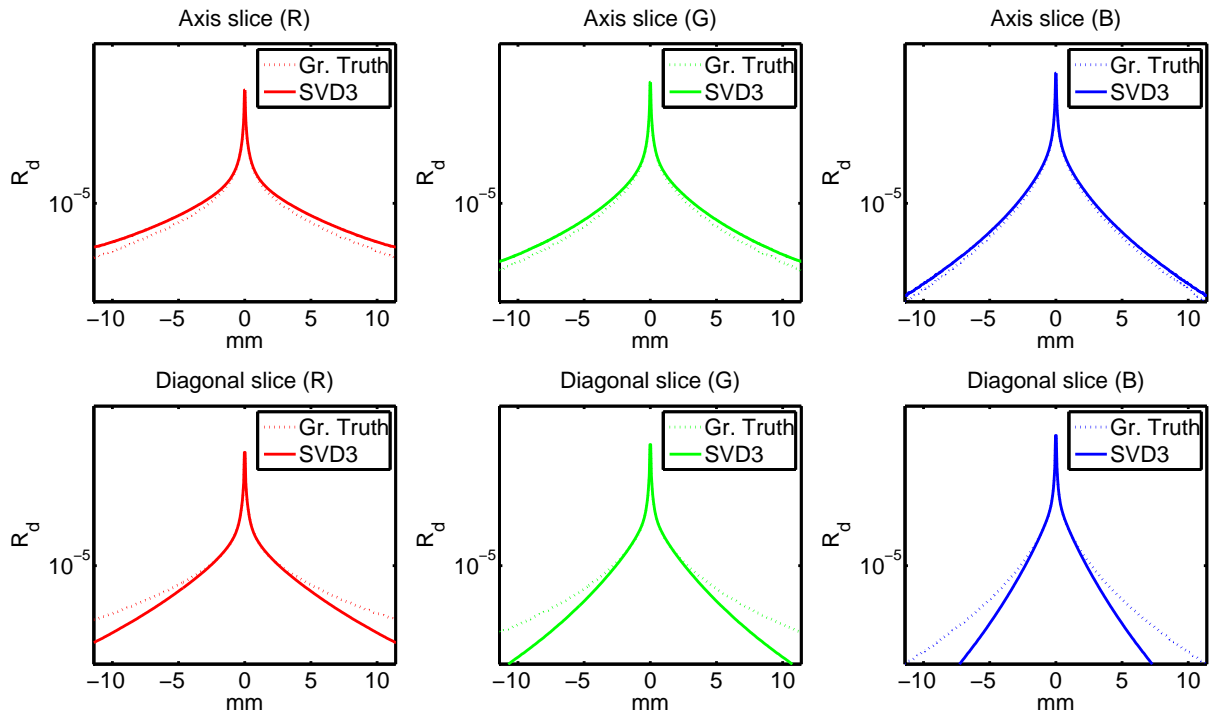


Figure S2.157: Skimmilk - SVD rank-3

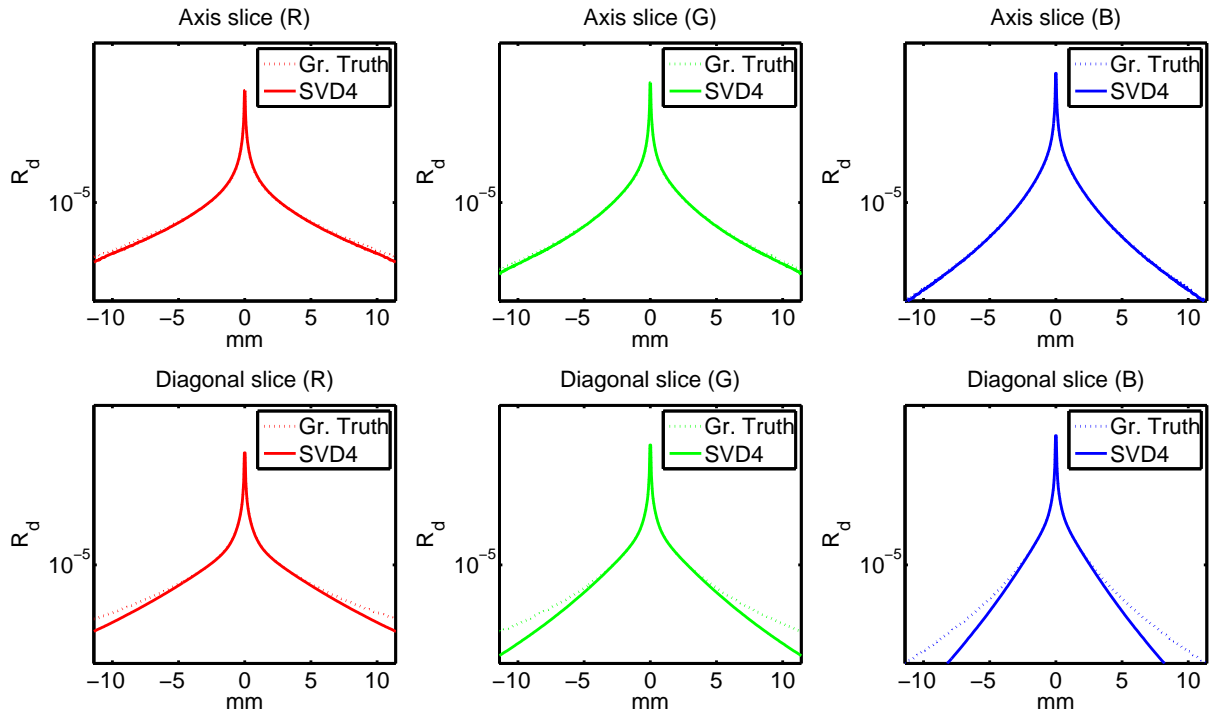


Figure S2.158: Skimmilk - SVD rank-4

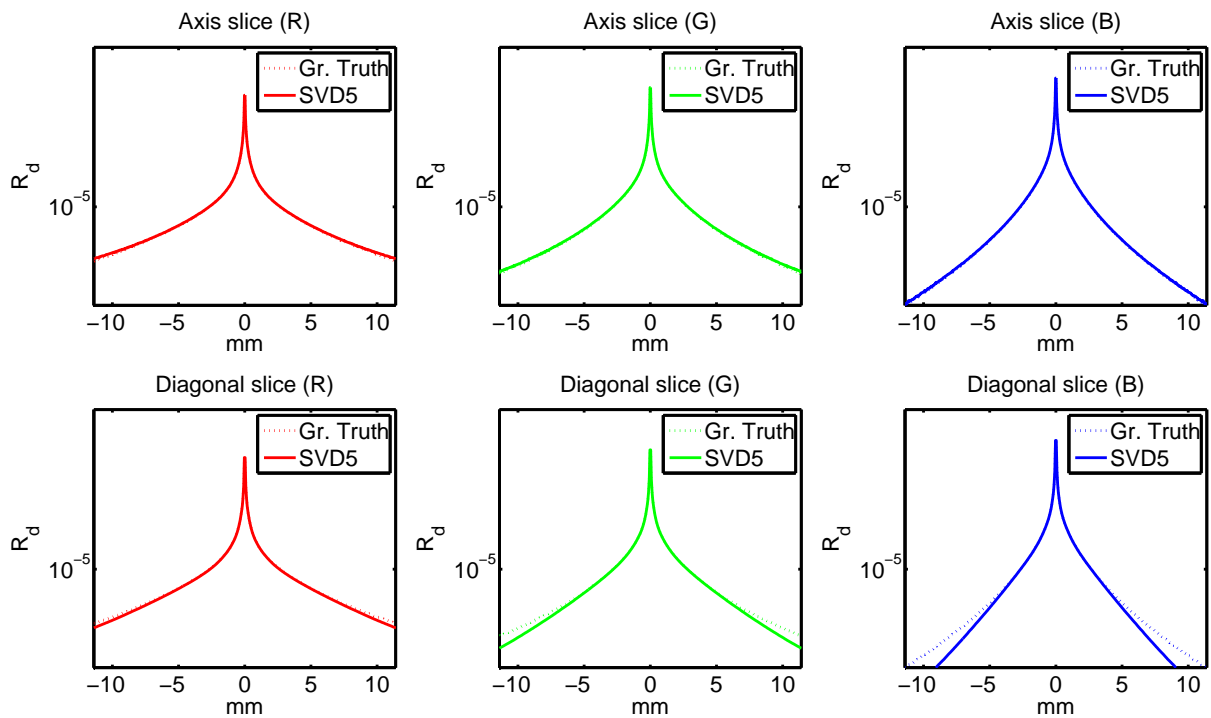


Figure S2.159: Skimmilk - SVD rank-5

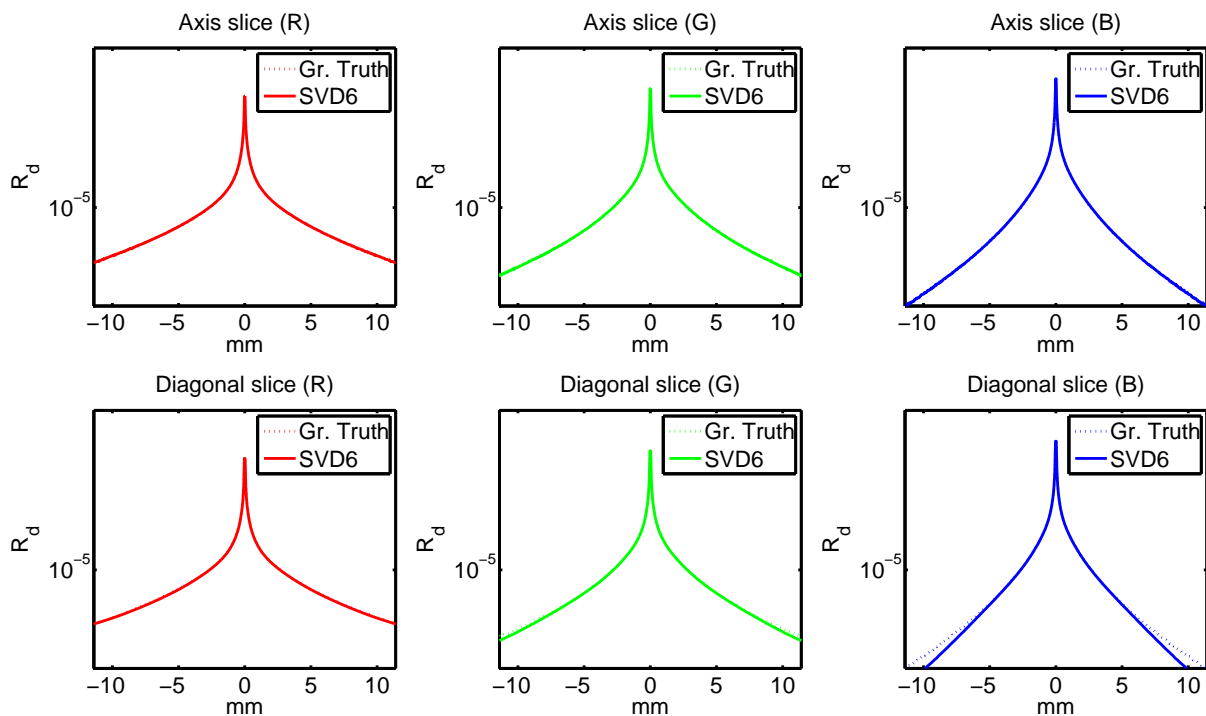


Figure S2.160: Skimmilk - SVD rank-6

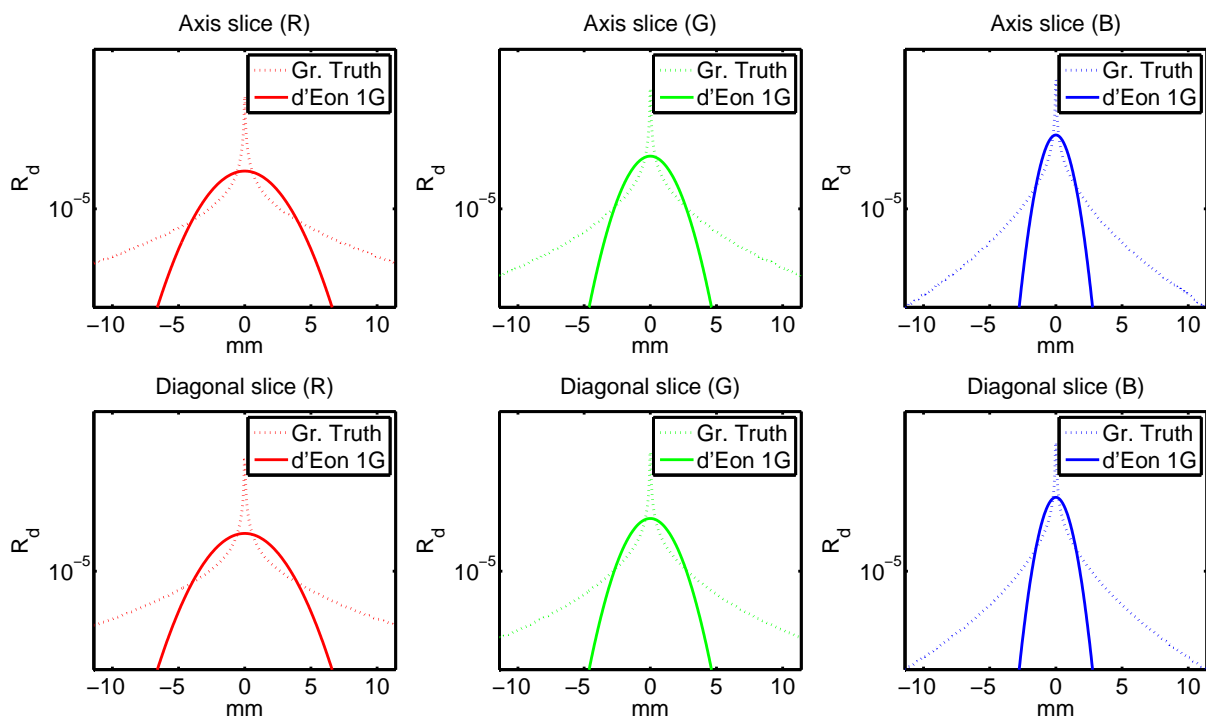


Figure S2.161: Skimmilk - d'Eon 1 Gaussian

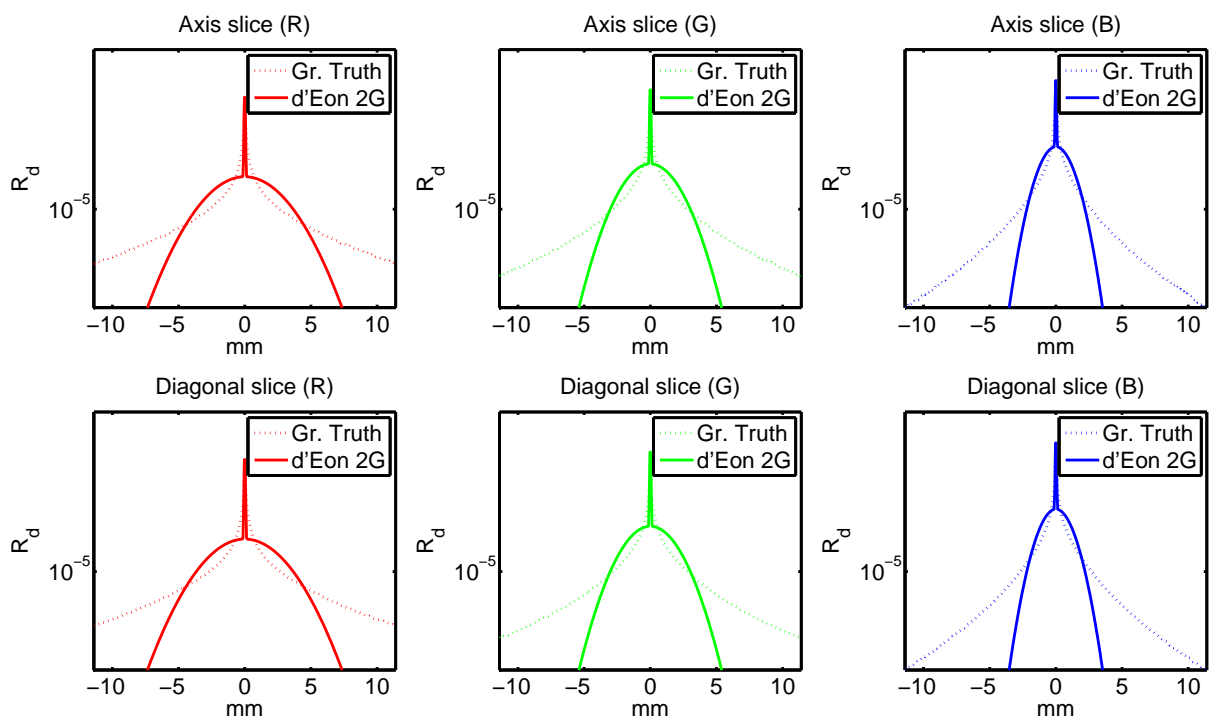


Figure S2.162: Skimmilk - d'Eon 2 Gaussian

Q.3 d'Eon

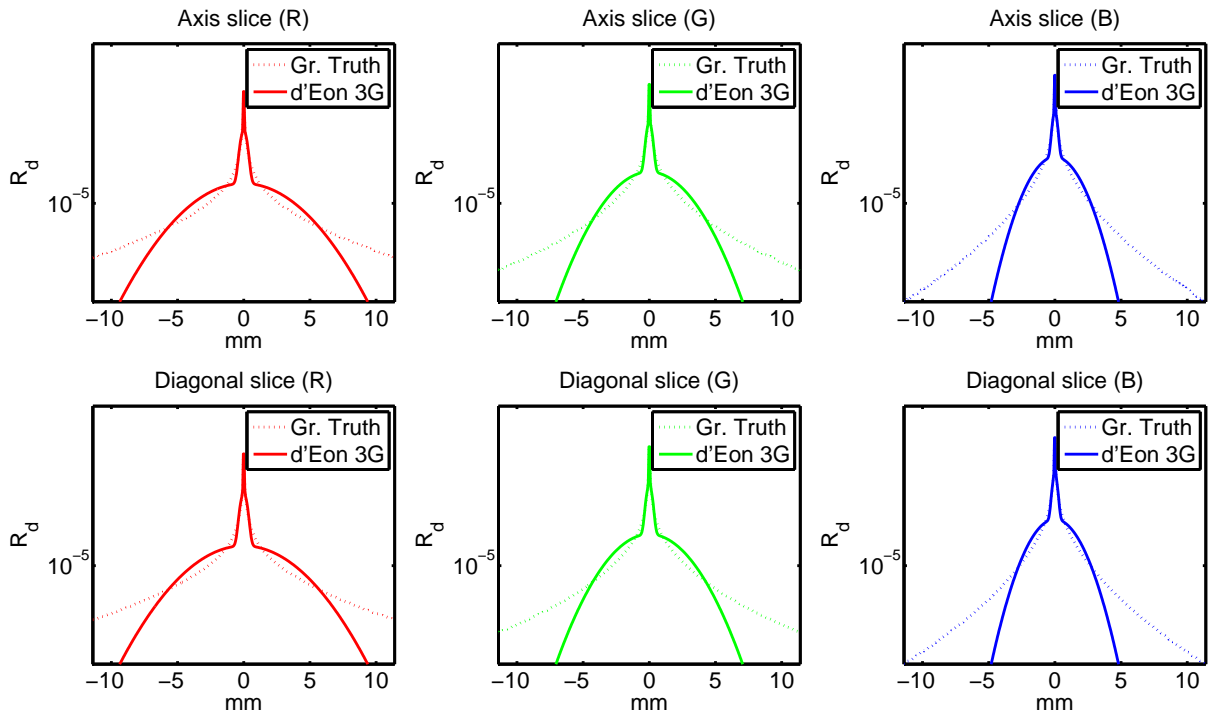


Figure S2.163: Skimmilk - d'Eon 3 Gaussian

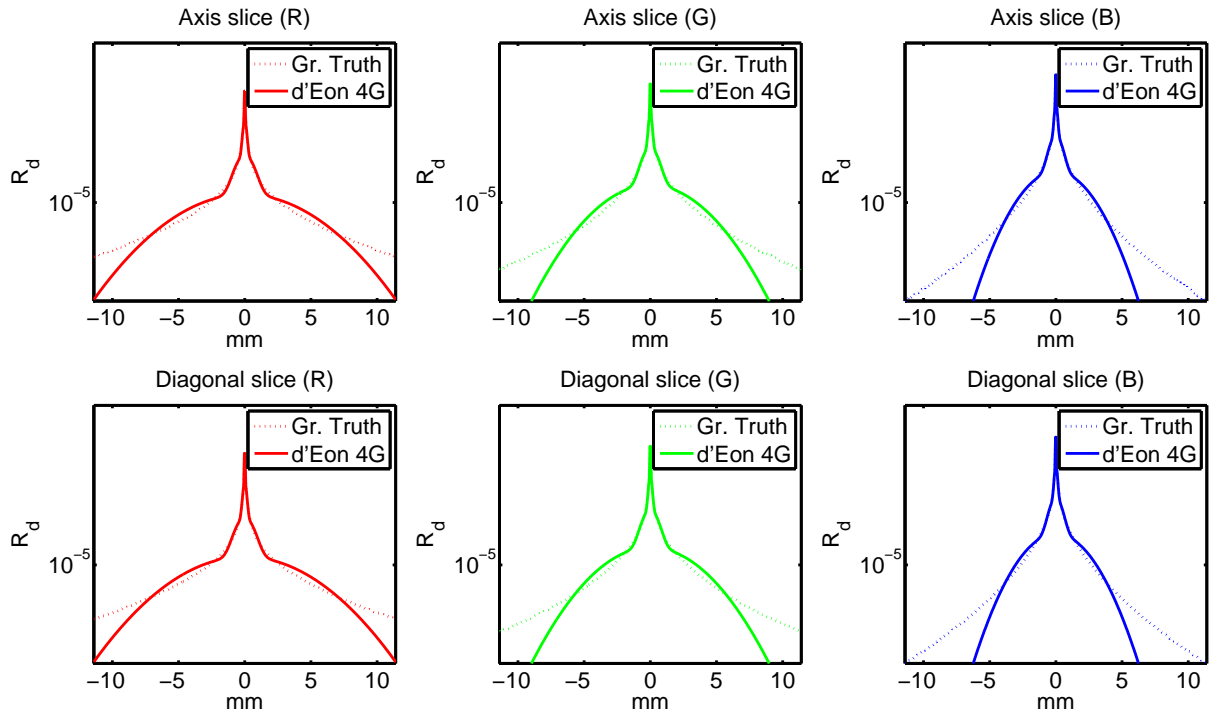


Figure S2.164: Skimmilk - d'Eon 4 Gaussian

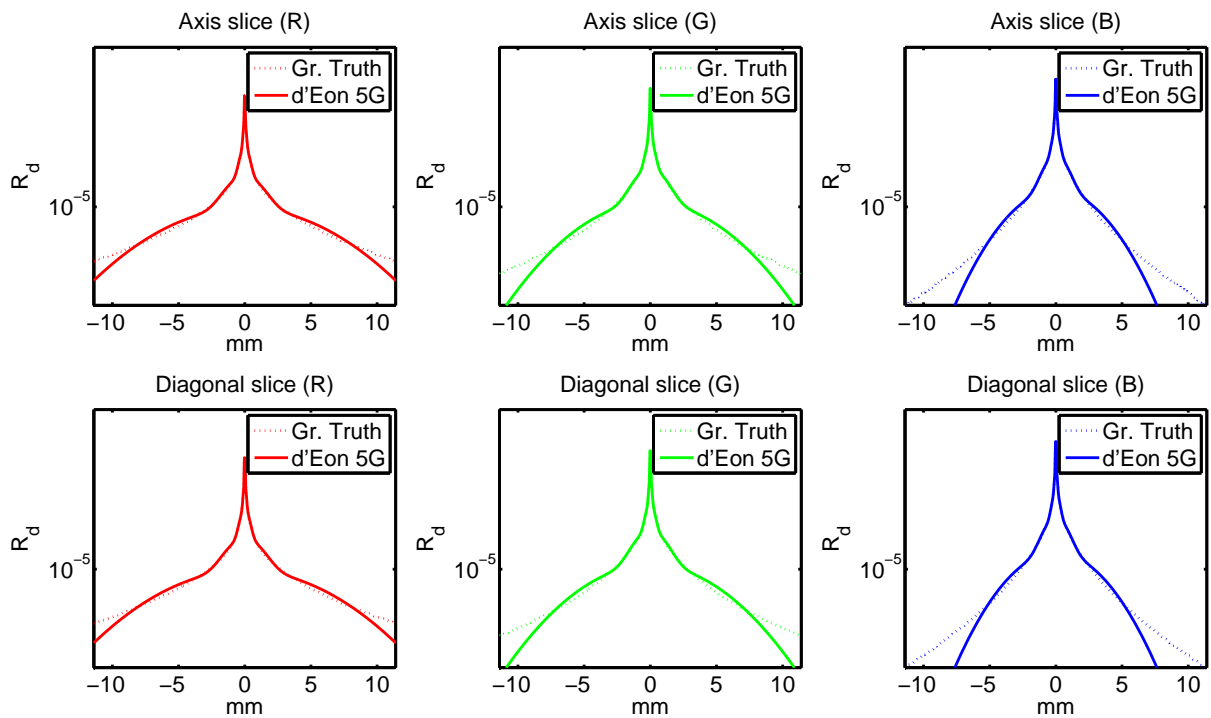


Figure S2.165: Skimmilk - d'Eon 5 Gaussian

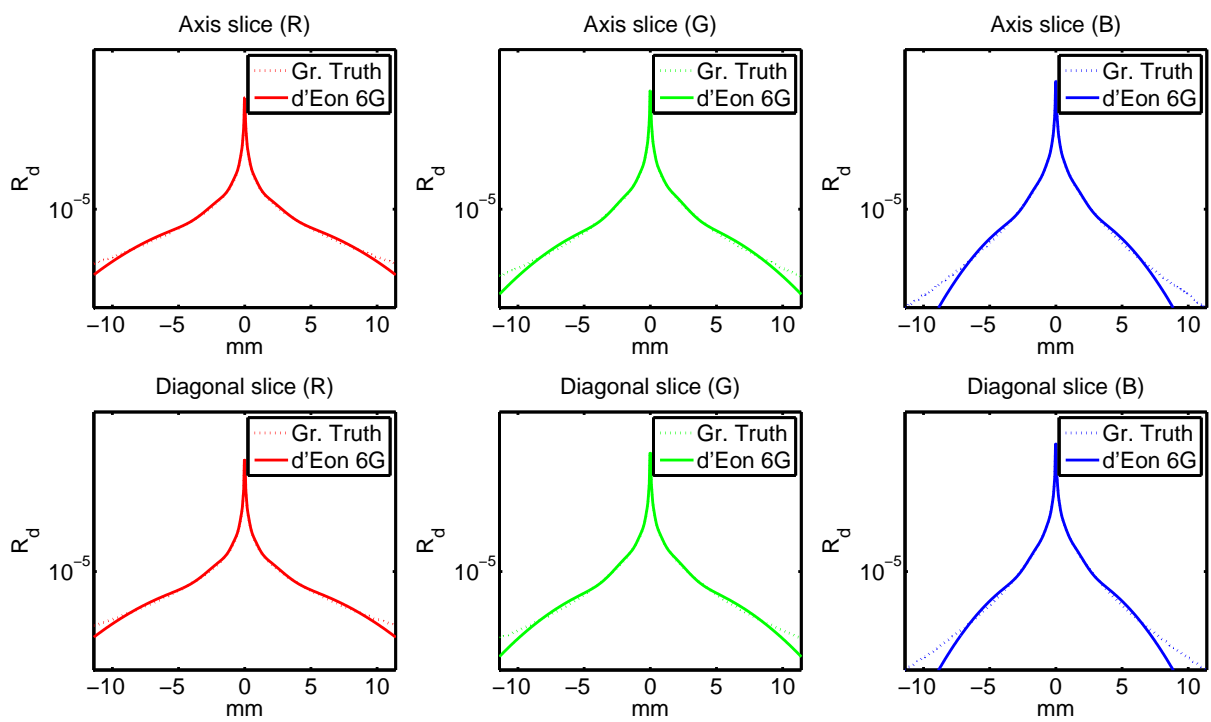


Figure S2.166: Skimmilk - d'Eon 6 Gaussian

R Skin2

R.1 Rank-1

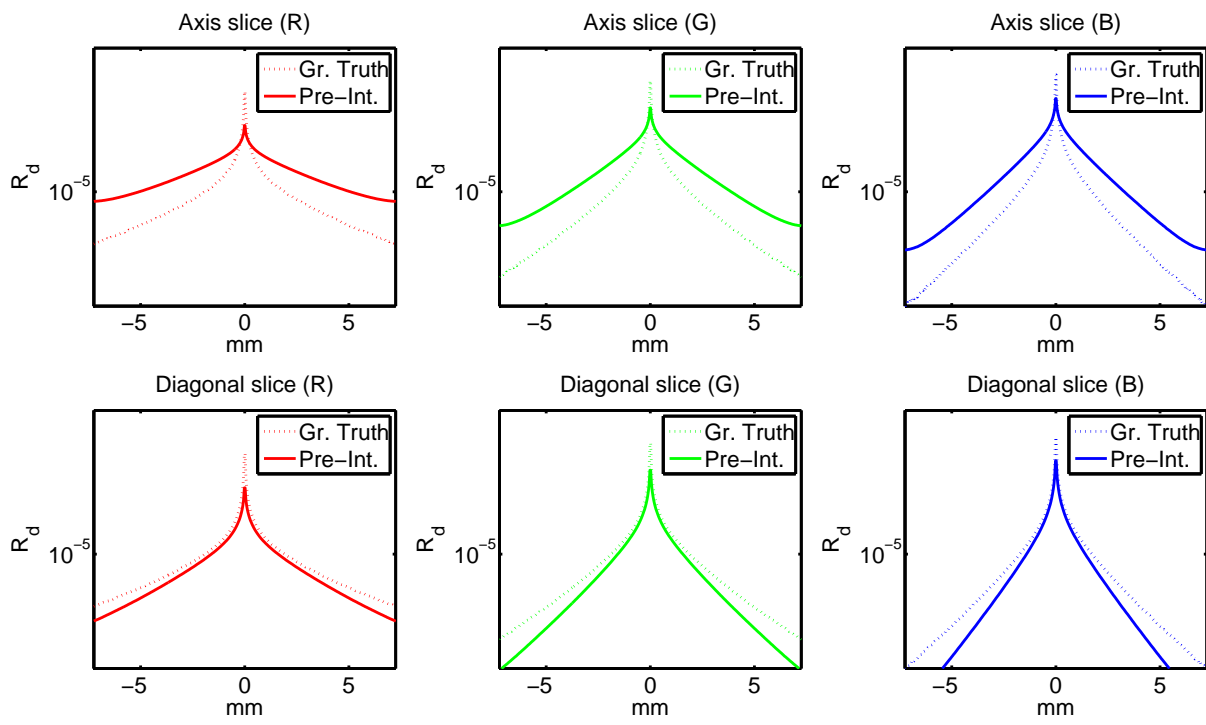


Figure S2.167: Skin2 - Kernel pre-integration

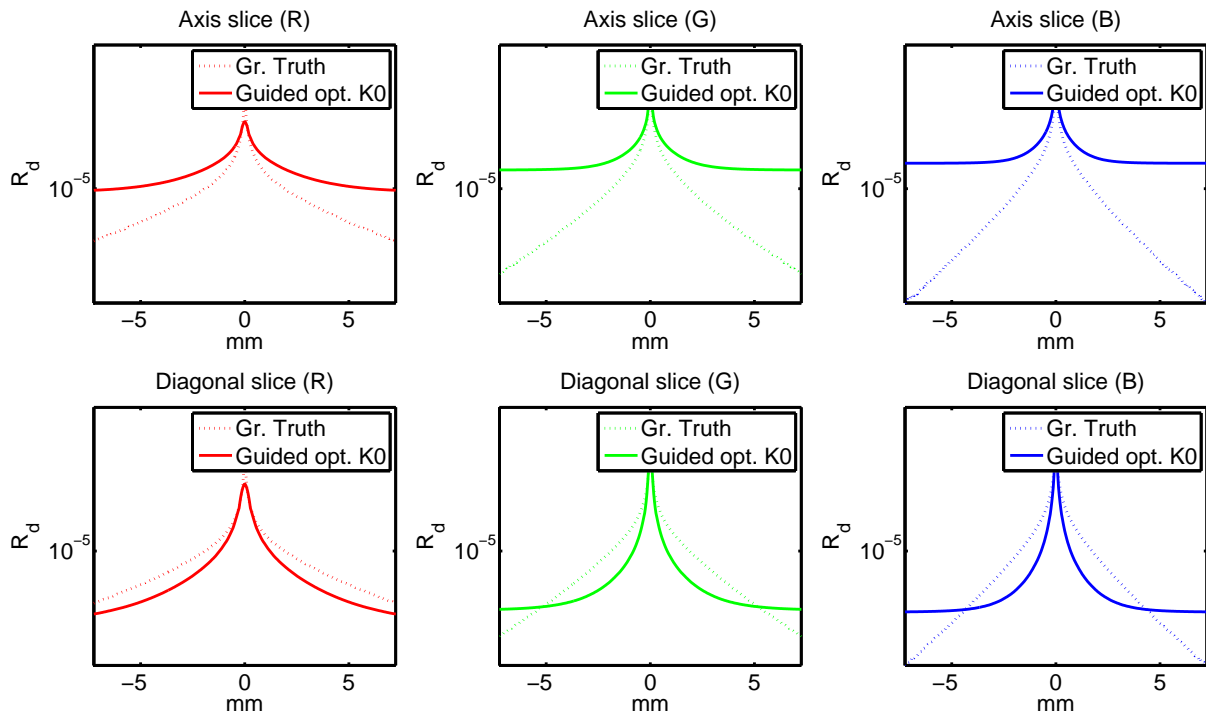


Figure S2.168: Skin2 - Guided optimization, k=0

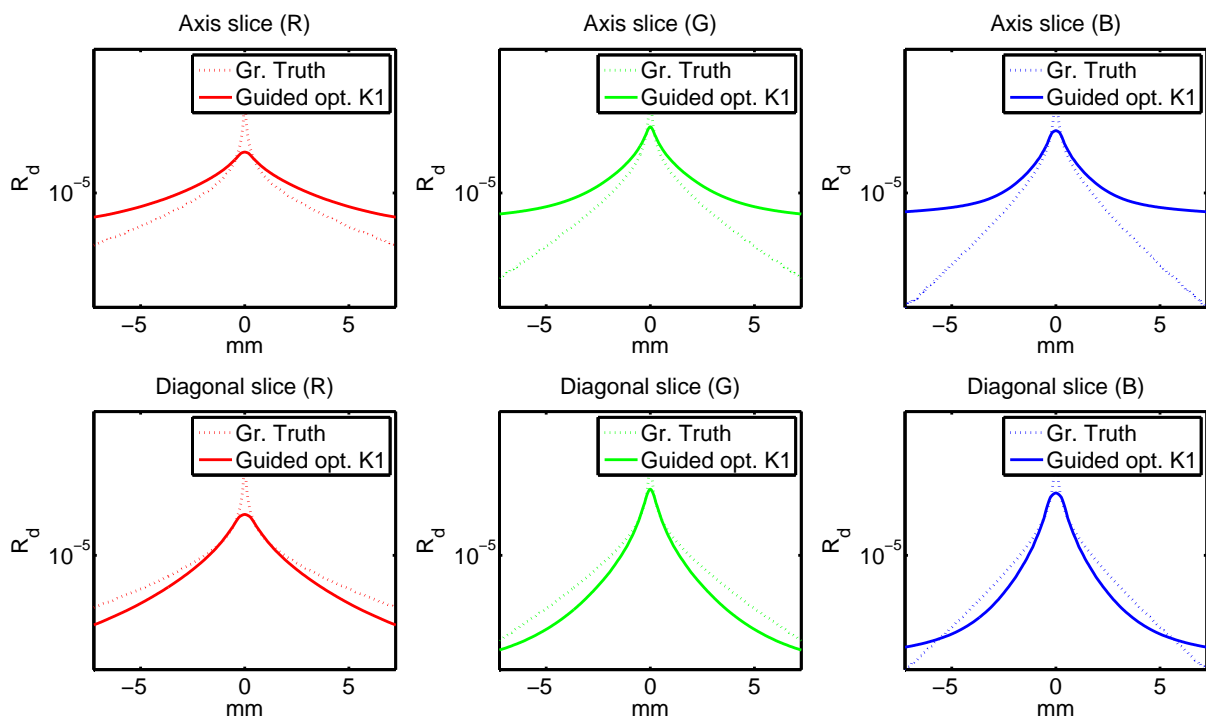


Figure S2.169: Skin2 - Guided optimization, k=1

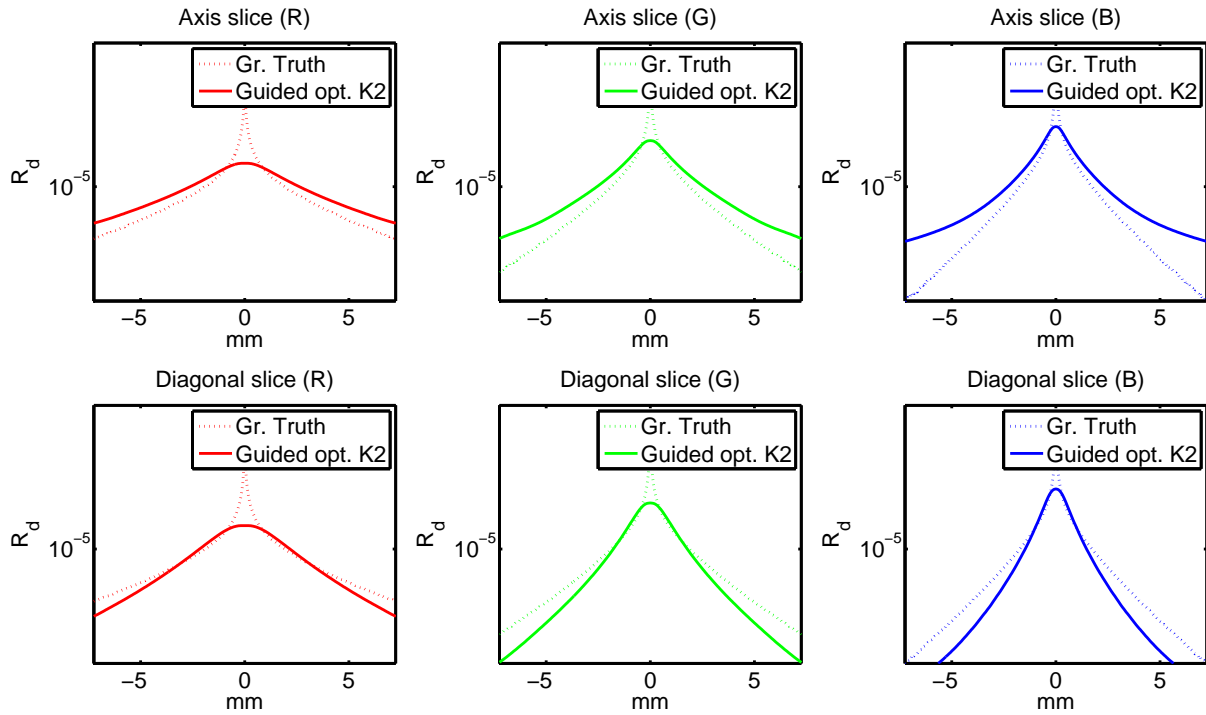


Figure S2.170: Skin2 - Guided optimization, k=2

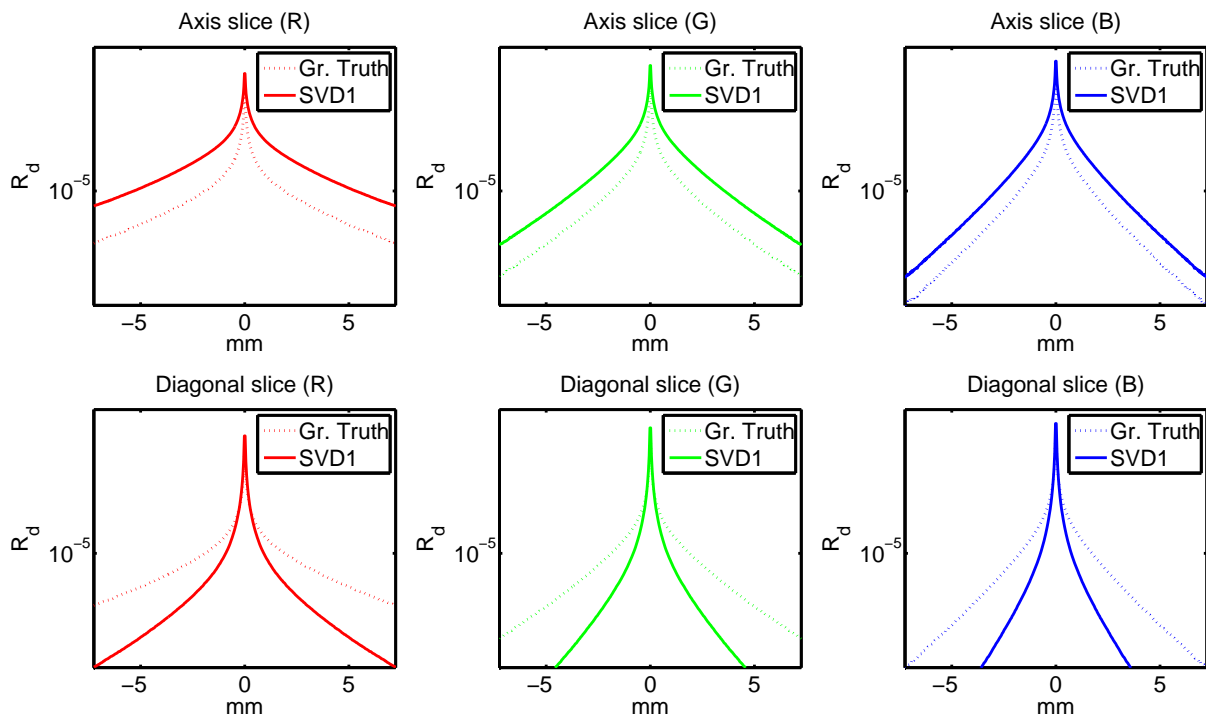


Figure S2.171: Skin2 - SVD rank-1

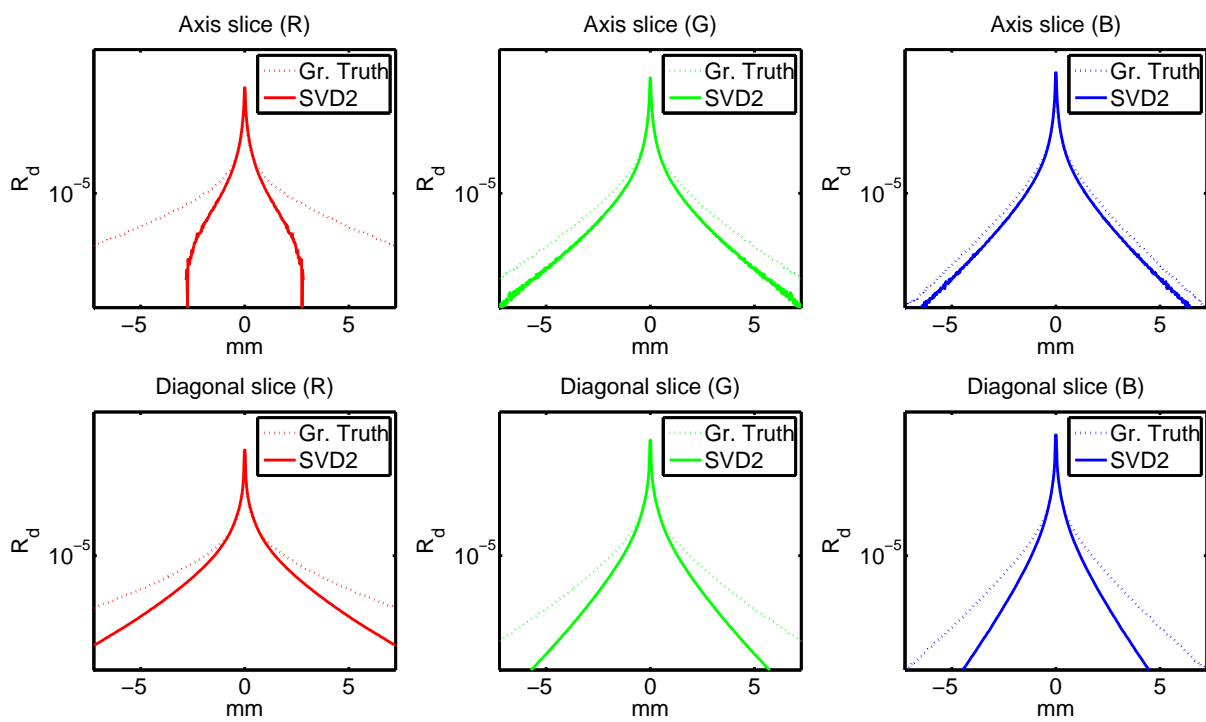


Figure S2.172: Skin2 - SVD rank-2

R.2 SVD

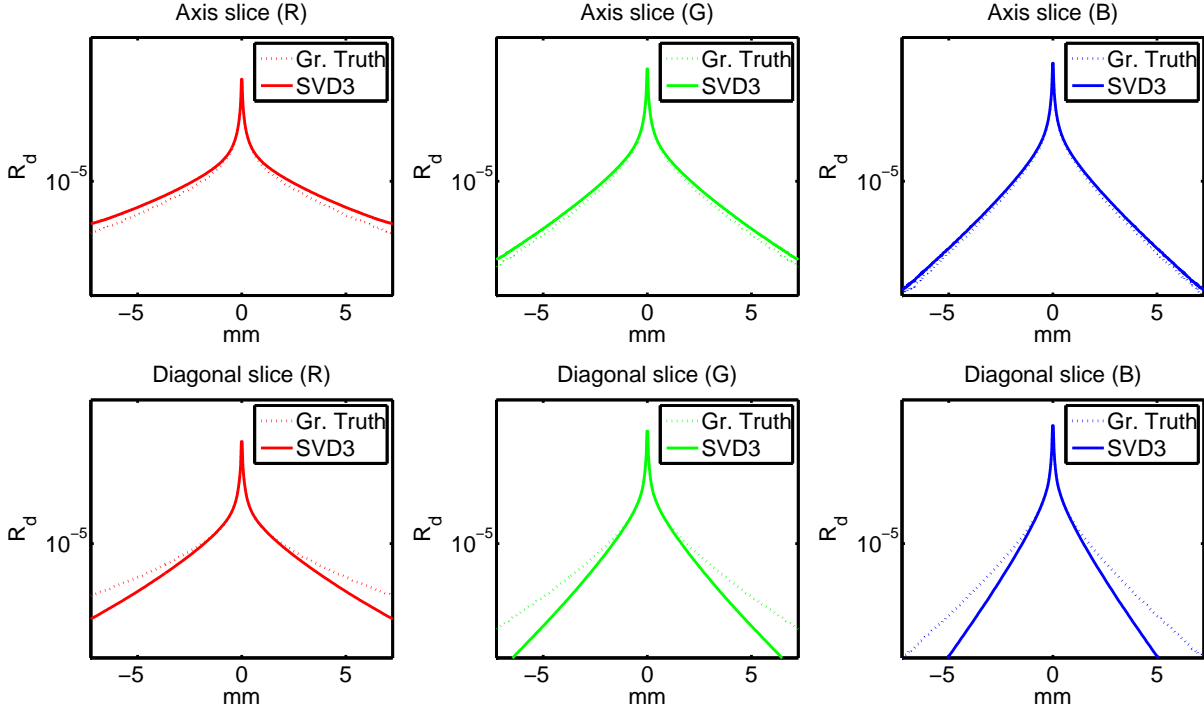


Figure S2.173: Skin2 - SVD rank-3

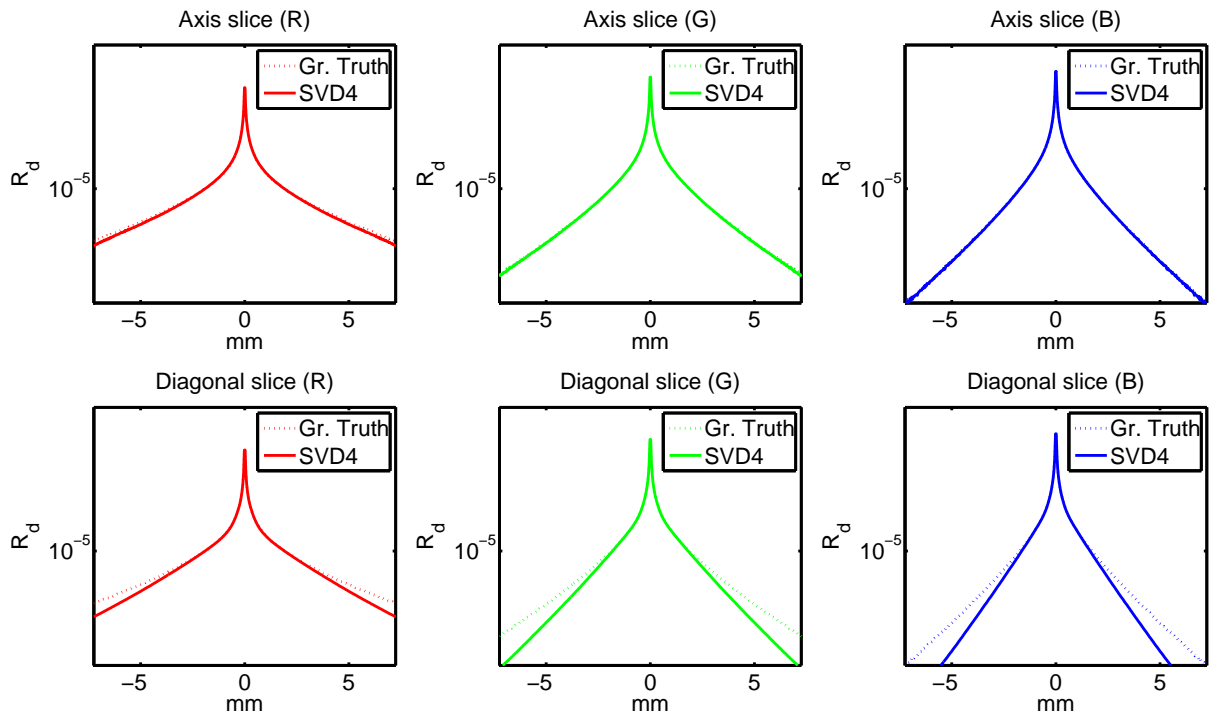


Figure S2.174: Skin2 - SVD rank-4

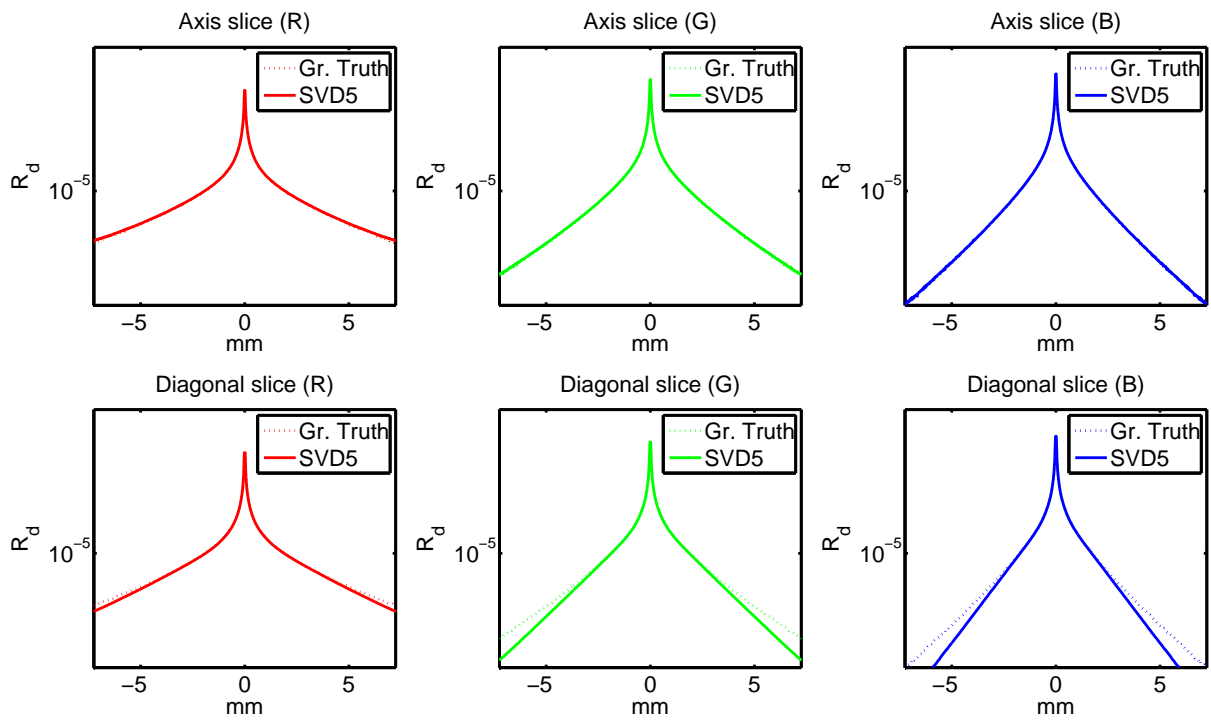


Figure S2.175: Skin2 - SVD rank-5

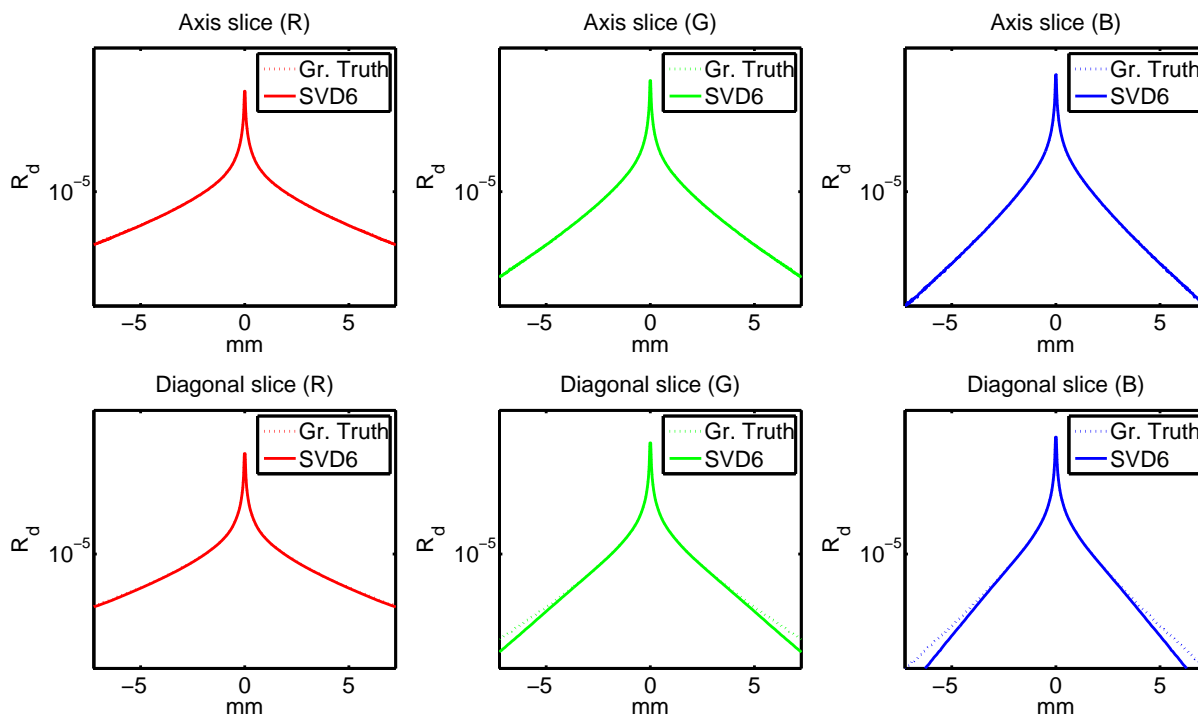


Figure S2.176: Skin2 - SVD rank-6

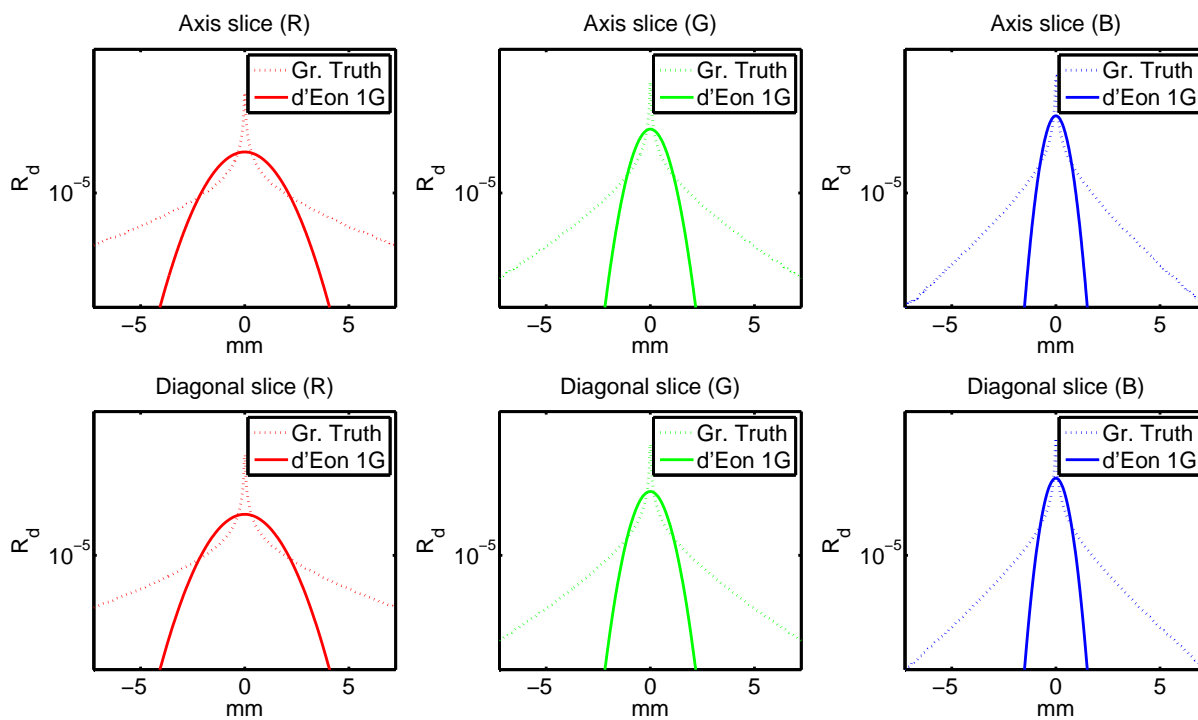


Figure S2.177: Skin2 - d'Eon 1 Gaussian

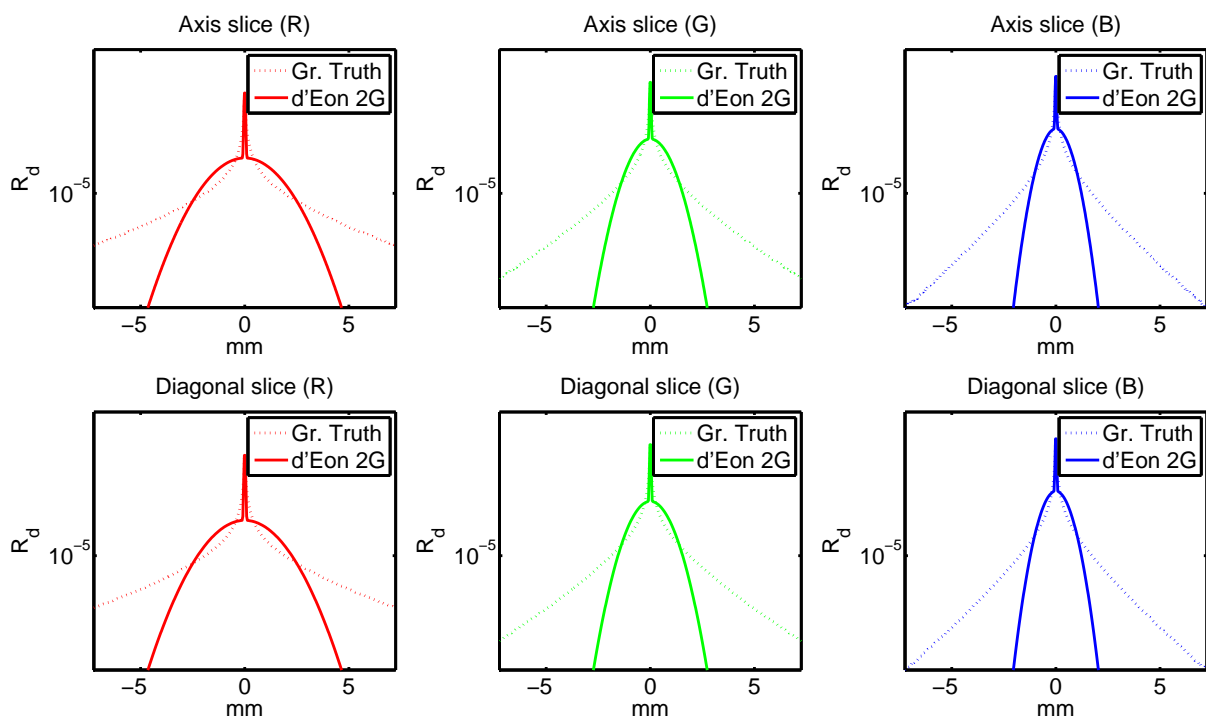


Figure S2.178: Skin2 - d'Eon 2 Gaussian

R.3 d'Eon

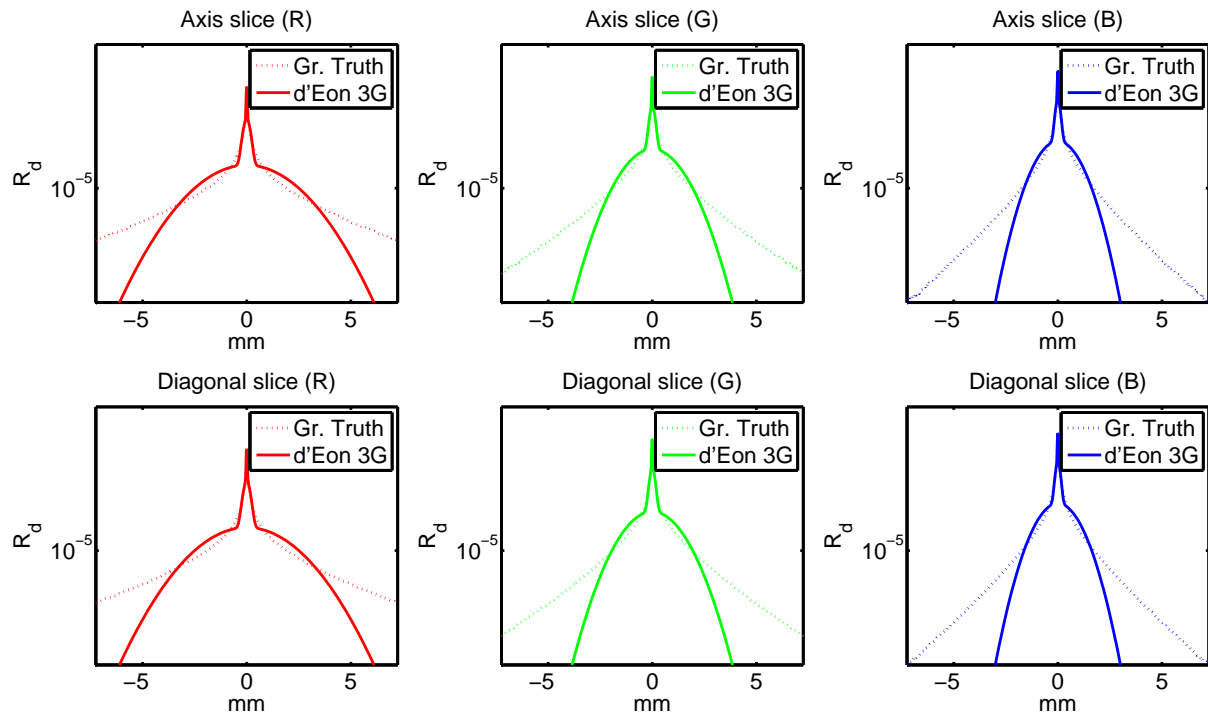


Figure S2.179: Skin2 - d'Eon 3 Gaussian

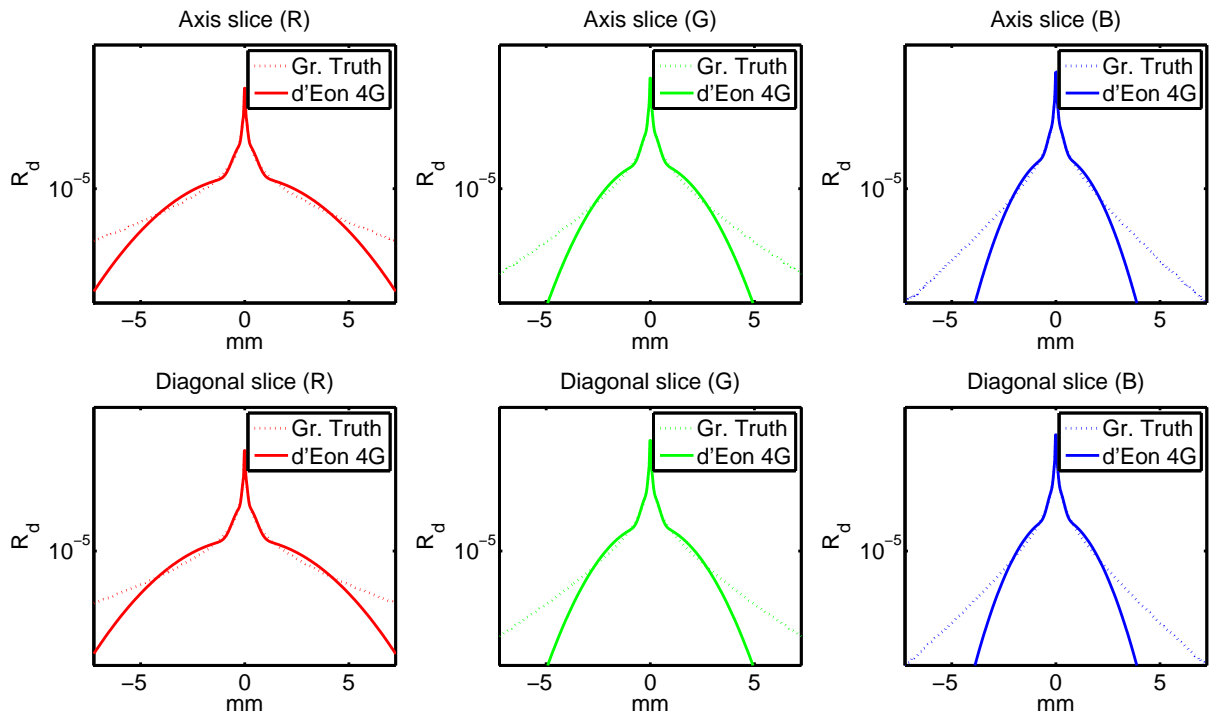


Figure S2.180: Skin2 - d'Eon 4 Gaussian

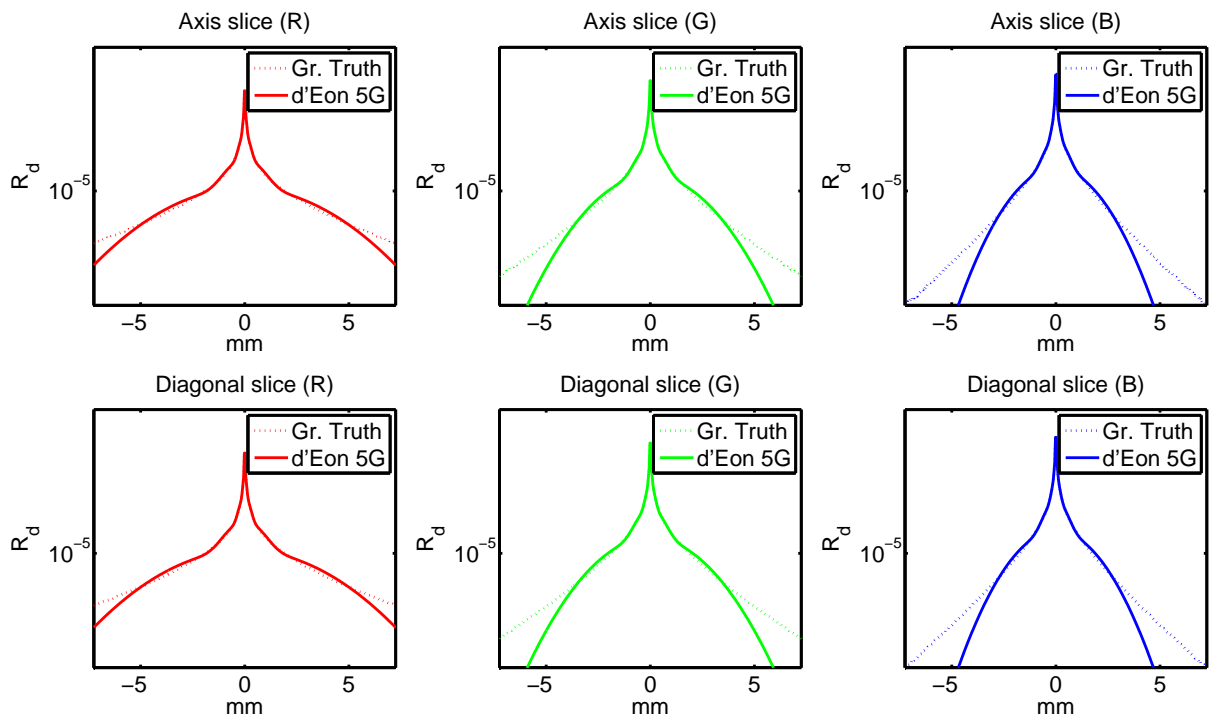


Figure S2.181: Skin2 - d'Eon 5 Gaussian

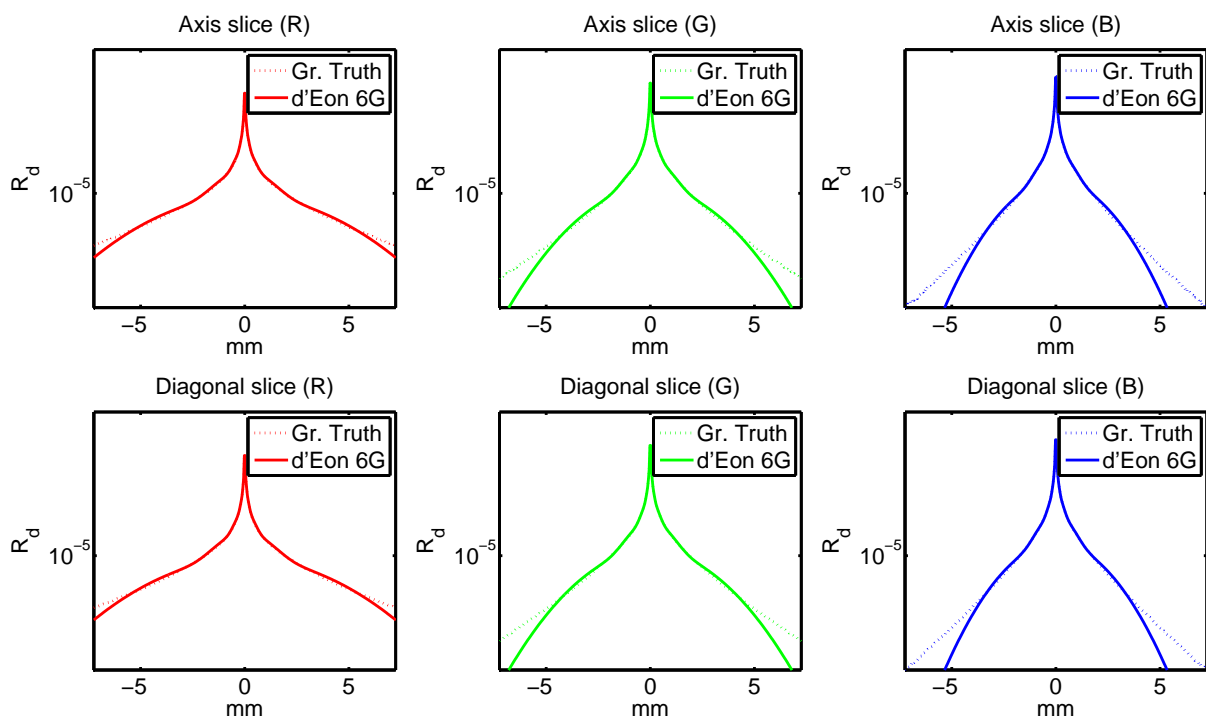


Figure S2.182: Skin2 - d'Eon 6 Gaussian