Buncher-rf Rotation & Cooling

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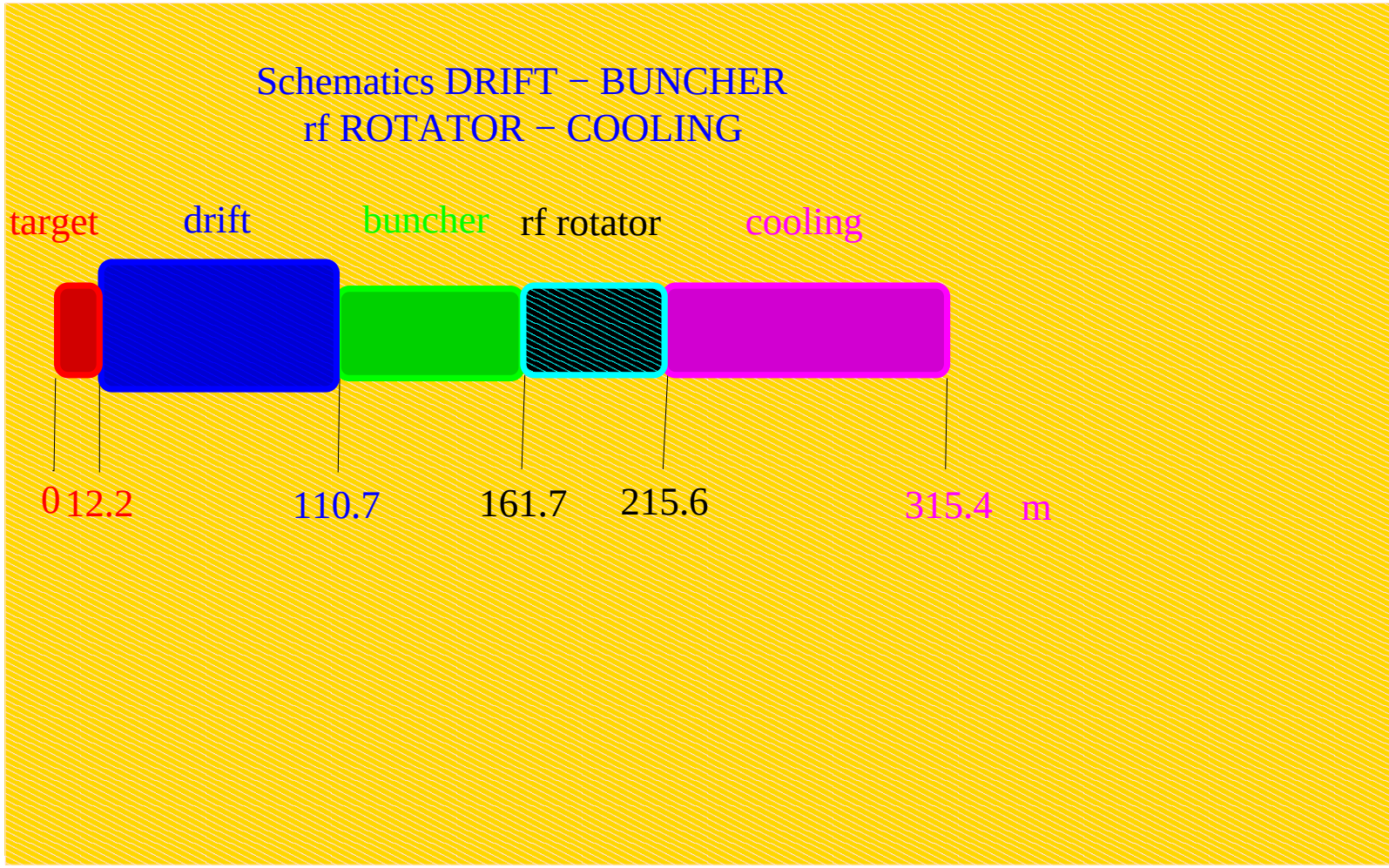
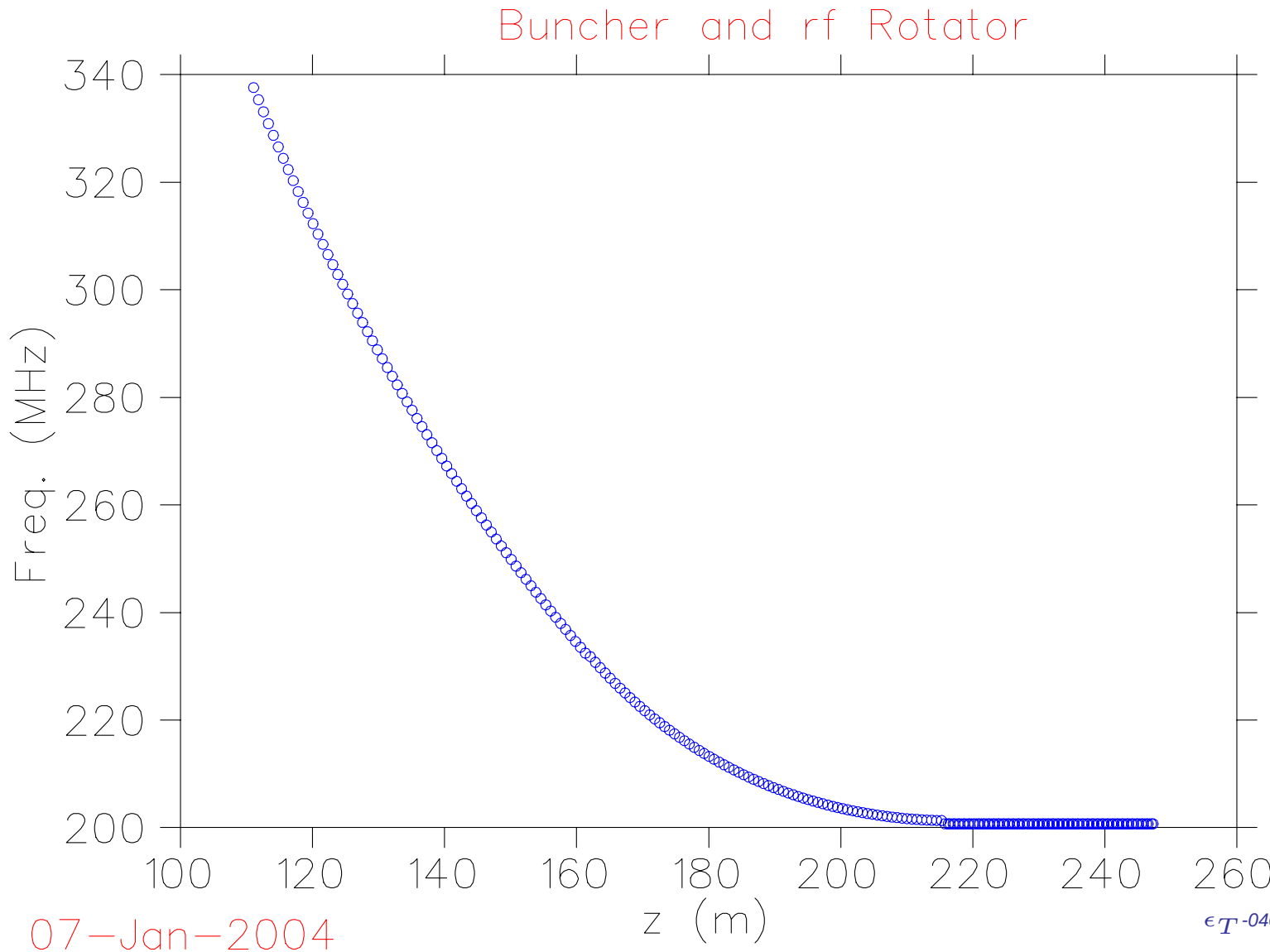
Muon Collaboration

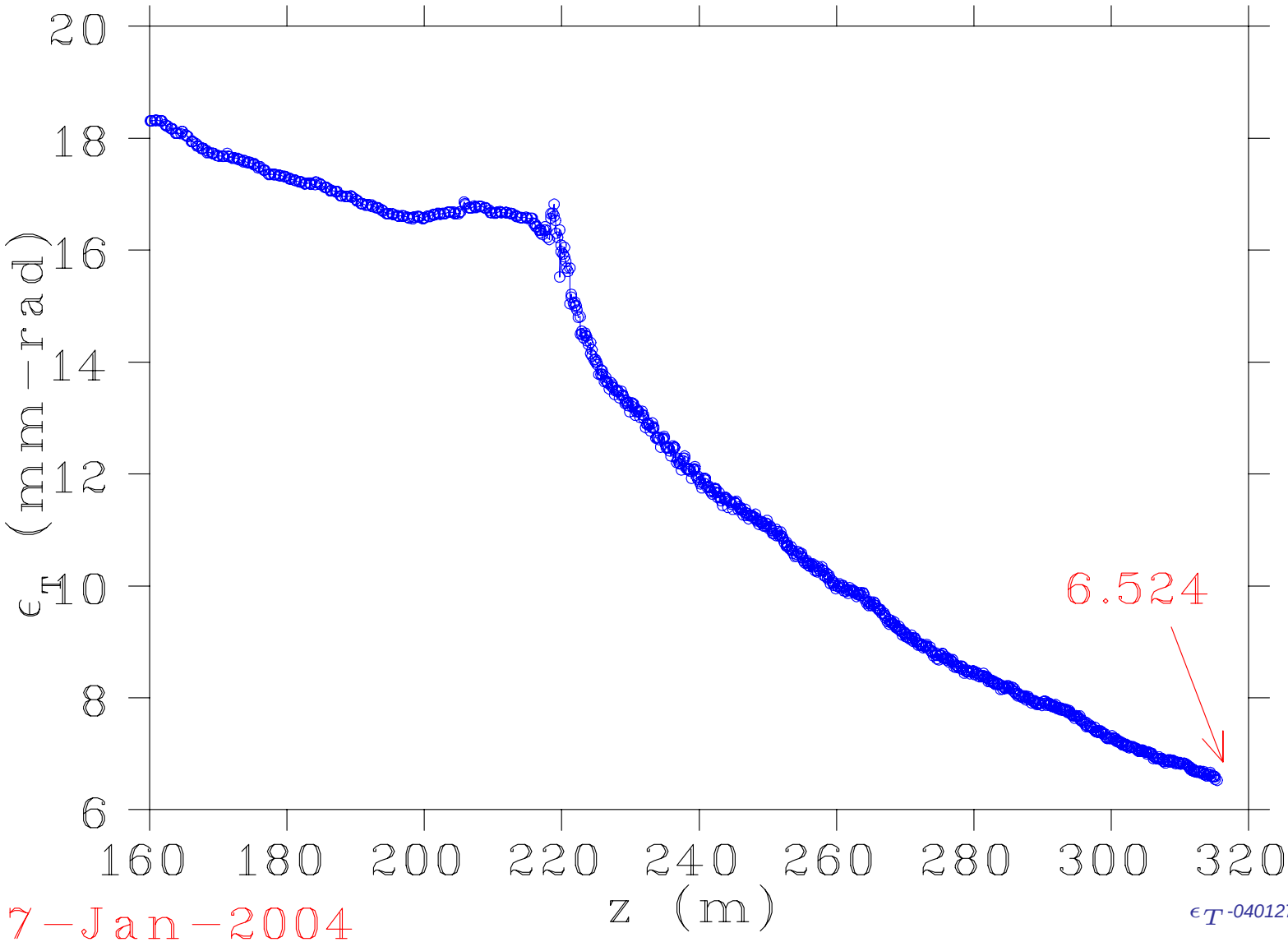
Schematics


Schematics DRIFT − BUNCHER
rf ROTATOR − COOLING
target
drift
buncher
rf rotator
cooling
0
12.2
110.7
161.7
215.6
315.4
m

rf-Frequency

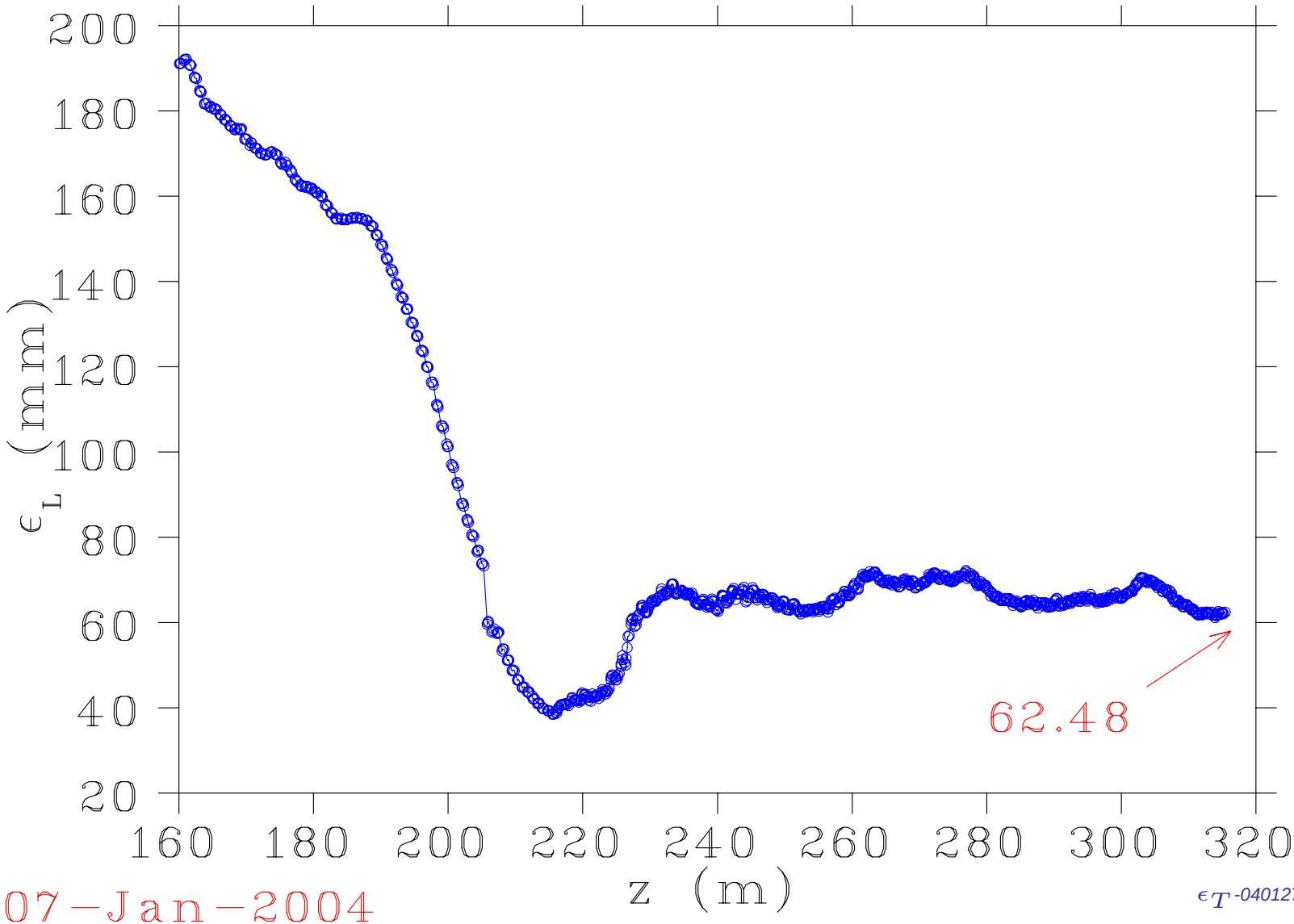


ϵ_T **vs.** z



07−Jan−2004

ϵ_L vs. z



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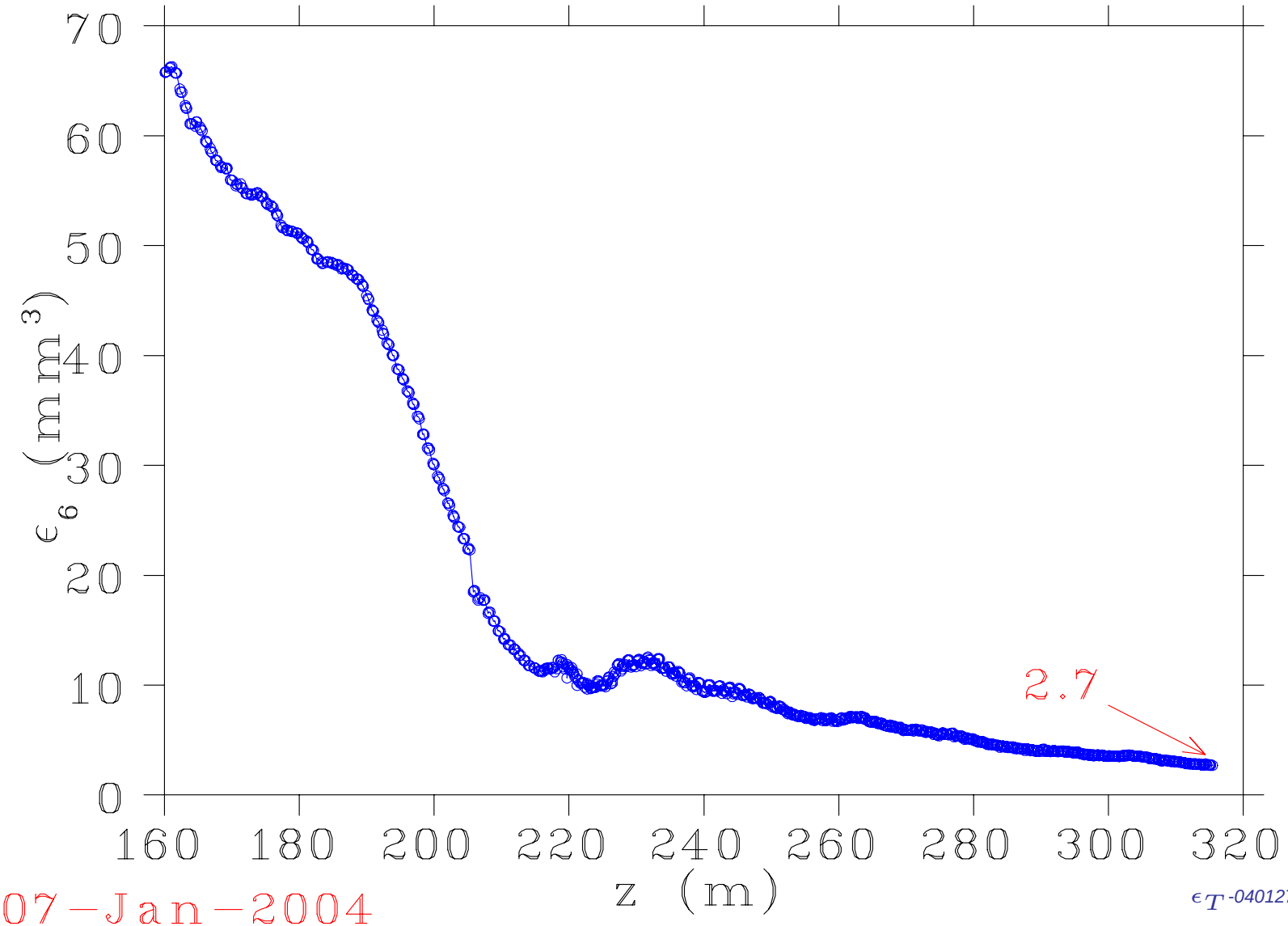
ϵ_6 **vs.** z



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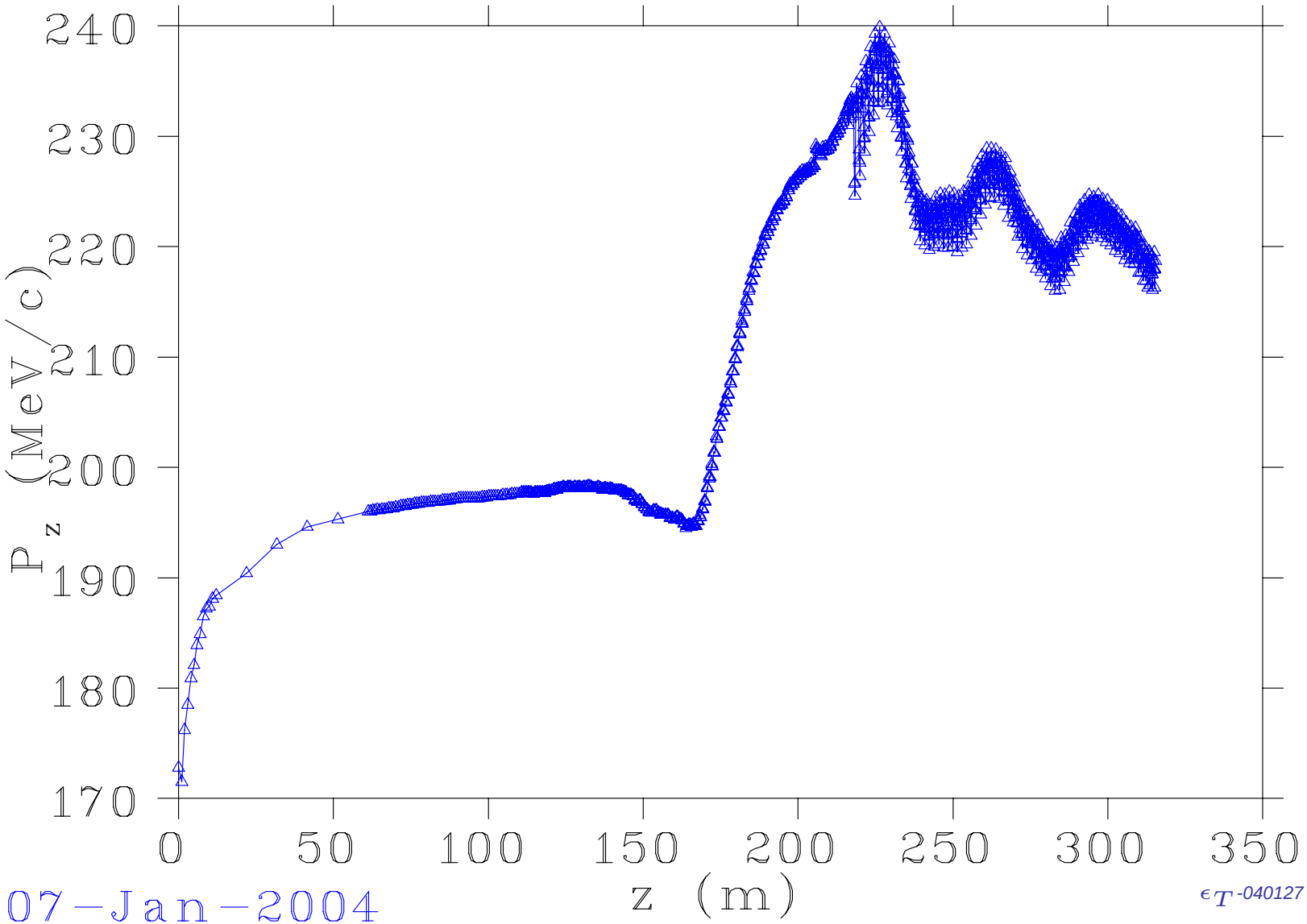
p_z vs. z



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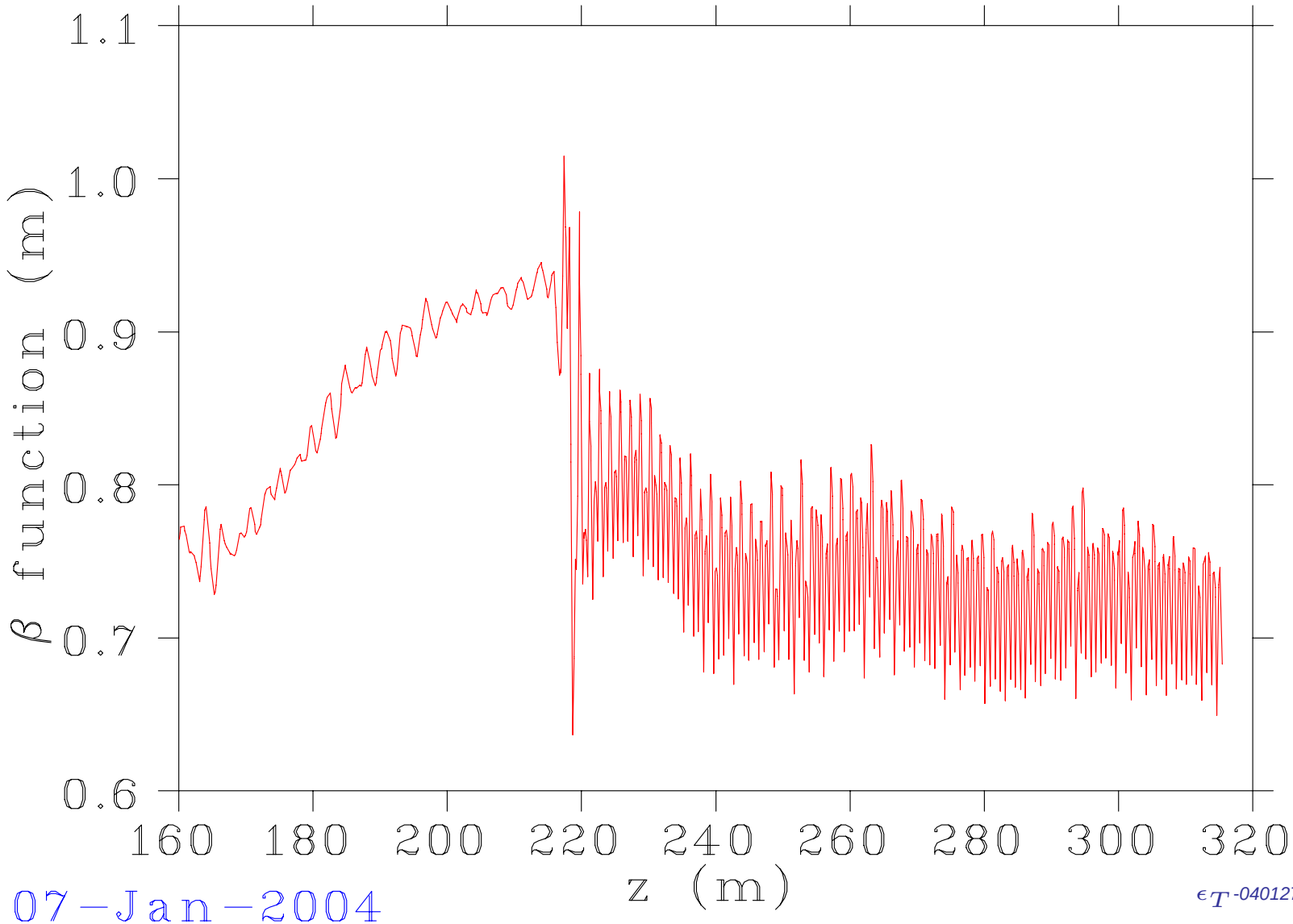
β-function *vs.* z



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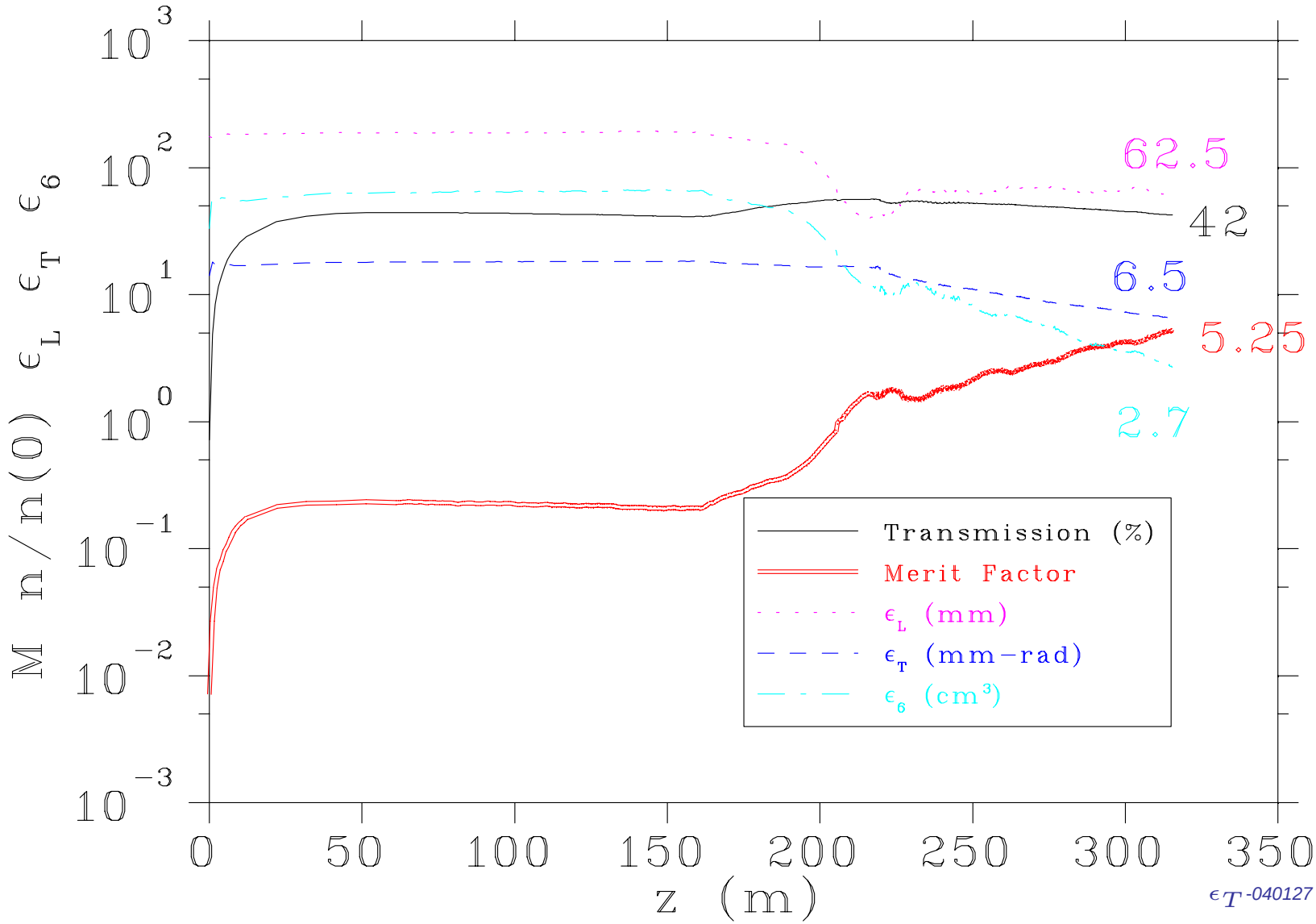
Drift-Buncher-Rotator-Cooling



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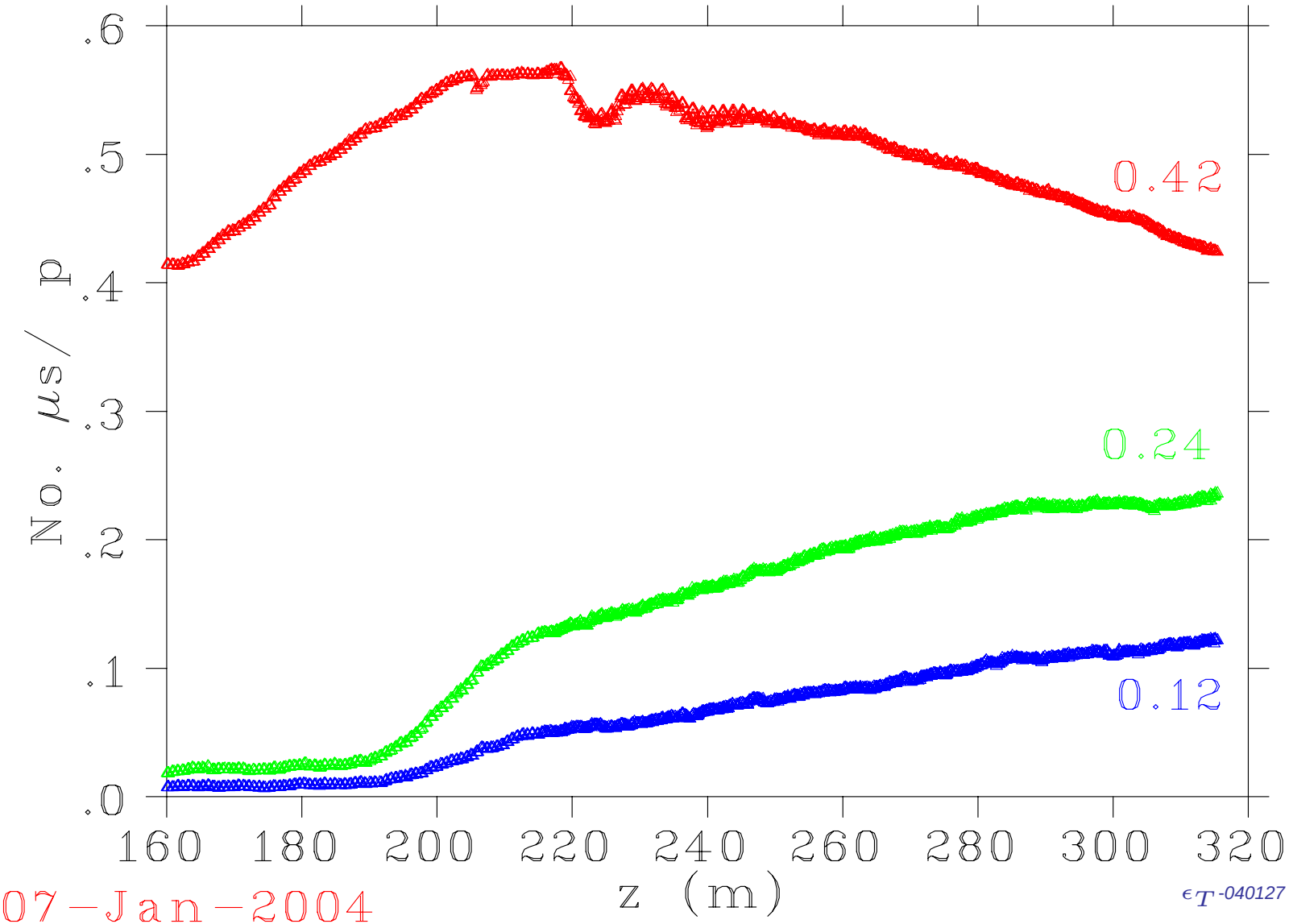
Drift-Buncher-Rotator-Cooling



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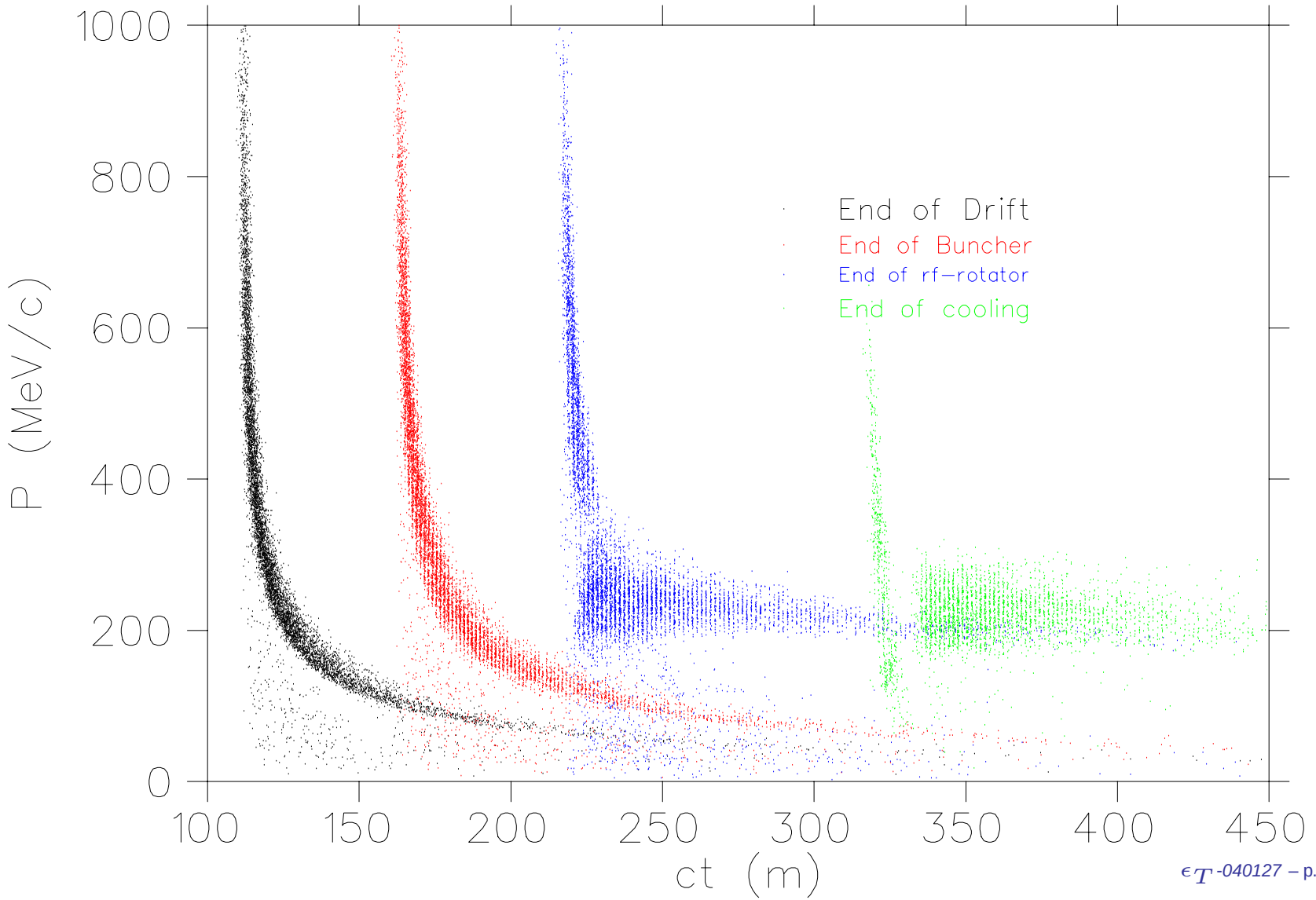
z-vs-p: drift; bun.; rot. ;cool.



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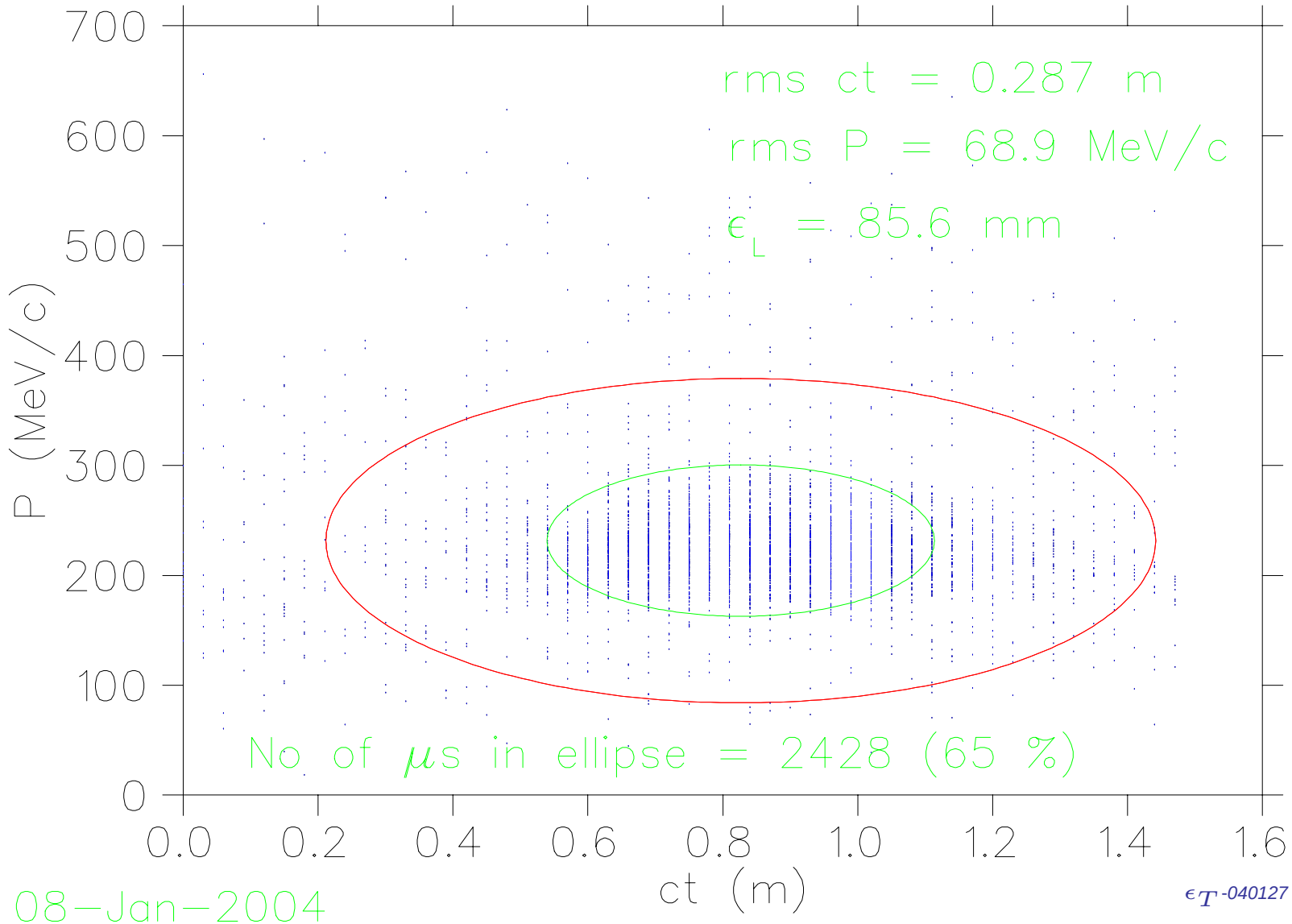
Folded long. phase space: cooling



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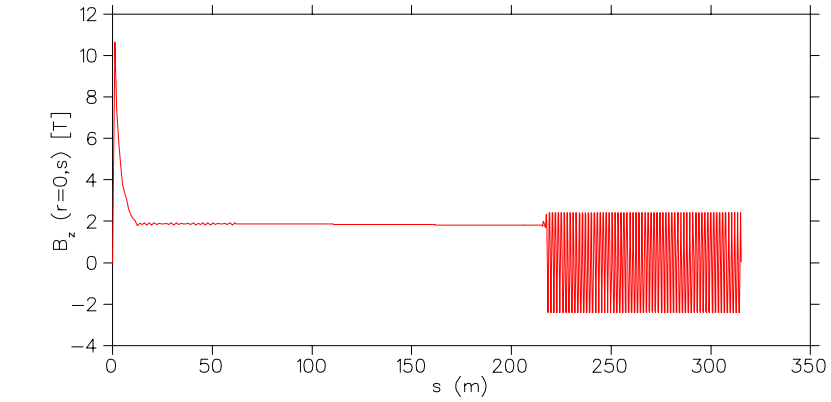
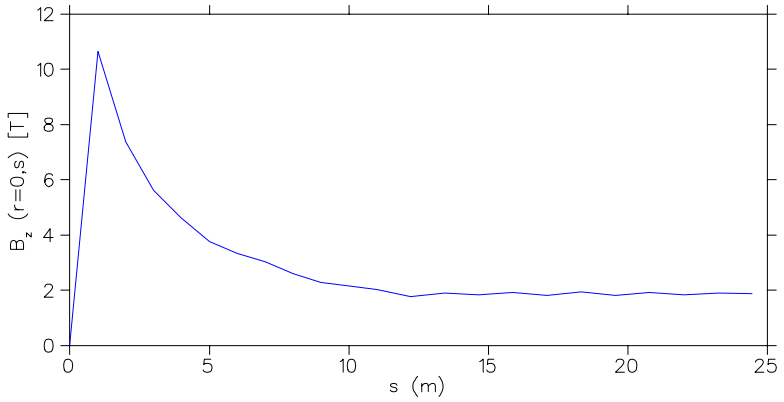
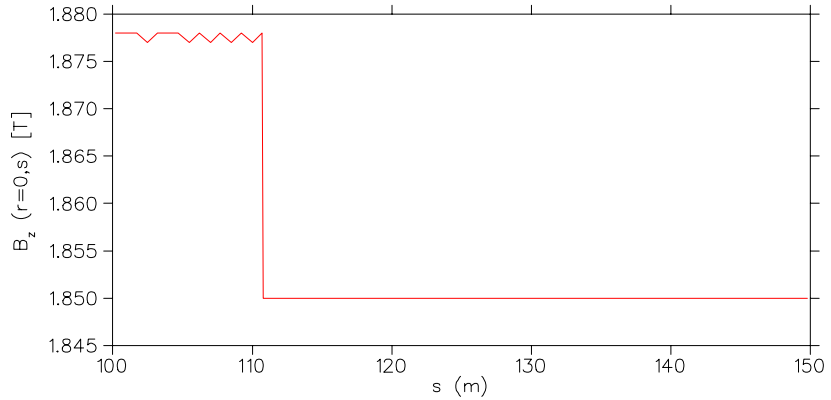
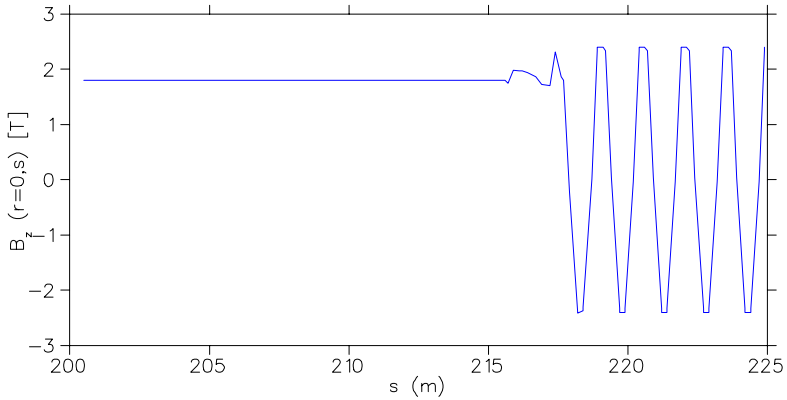
08–Jan–2004

B_z periodic in the drift; $\lambda = 0.5$ m





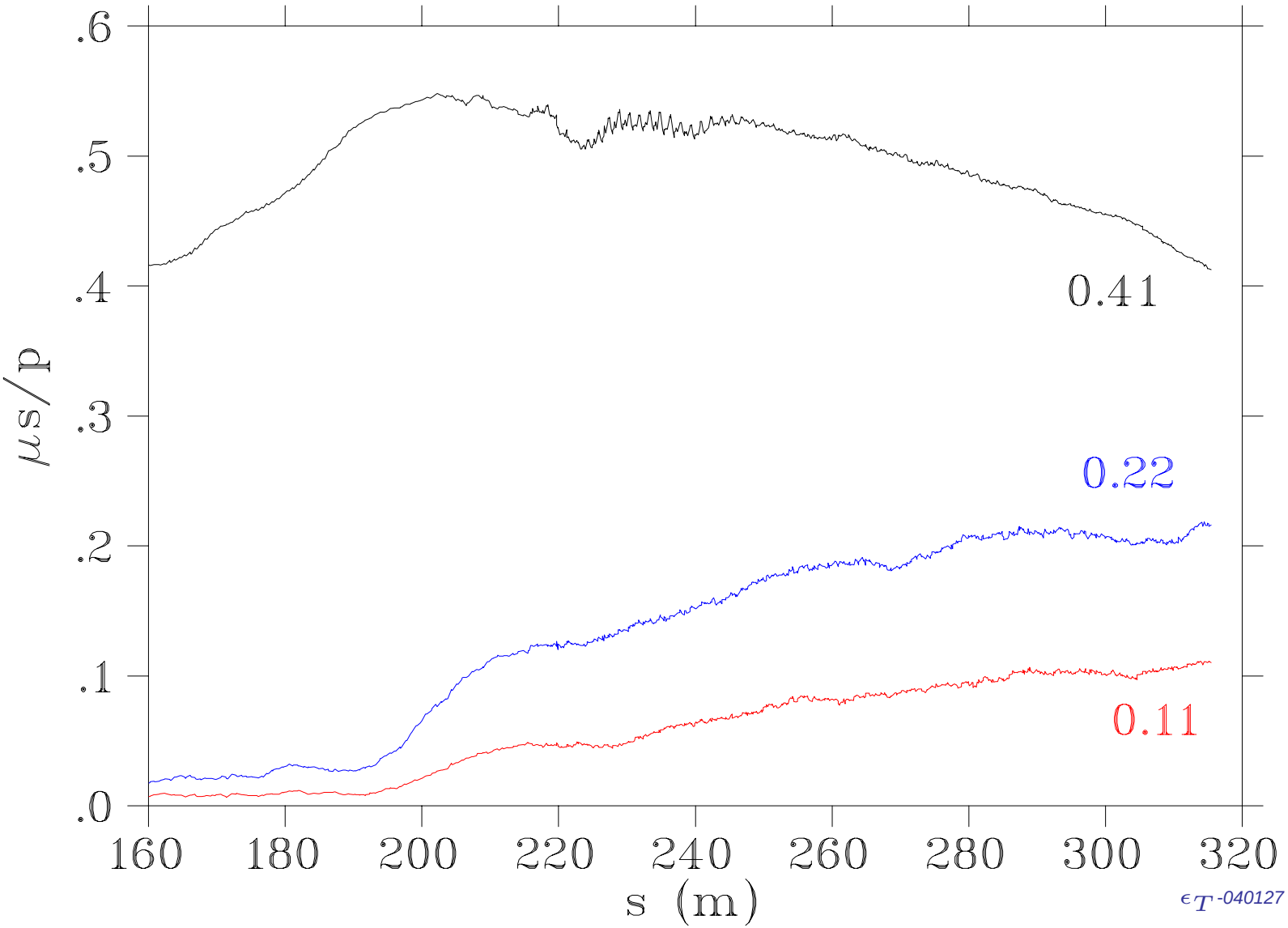




Drift: B_z period = 0.5 m

12–Jan–2004

B_z periodic in drift; $\lambda = 0.5$ m



B_z periodic in drift and buncher;

Table 1: B_z periodic in drift and buncher.

	λ	ϵ_T	ϵ_L	ϵ_6	N_0	N_1	N_2
C.	0.	6.5	62.5	2.7	0.42	0.24	0.12
drift	0.5	6.6	67.7	3.0	0.41	0.22	0.11
drift	0.75	6.5	67.6	2.9	0.36	0.19	0.10
drift	1.00	6.6	68.6	3.0	0.34	0.17	0.08
bunch	0.75	6.6	62.9	2.8	0.38	0.21	0.11
drift & buncher	0.5/0.75	6.7	65.7	3.0	0.39	0.21	0.11

N_0 total μ/p

N_1 within $\epsilon_T = 15$ mm-rad and $\epsilon_L = 150$ mm

N_2 within $\epsilon_T = 3$ mm-rad and $\epsilon_L = 150$ mm