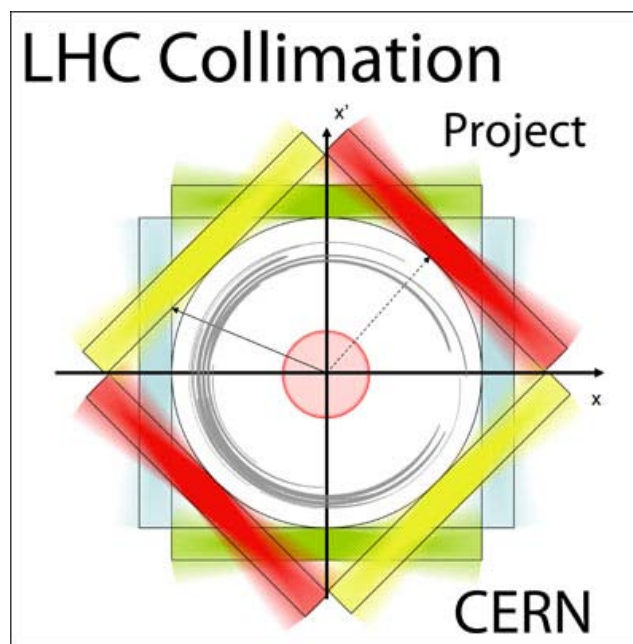




Loss Maps with Ions



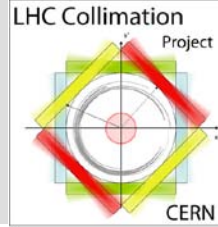
G. Valentino

R. Assmann, D. Wollmann, R. Bruce,

S. Redaelli, M. Cauchi



Setup and Qualification for Ions



Collimator Set-up

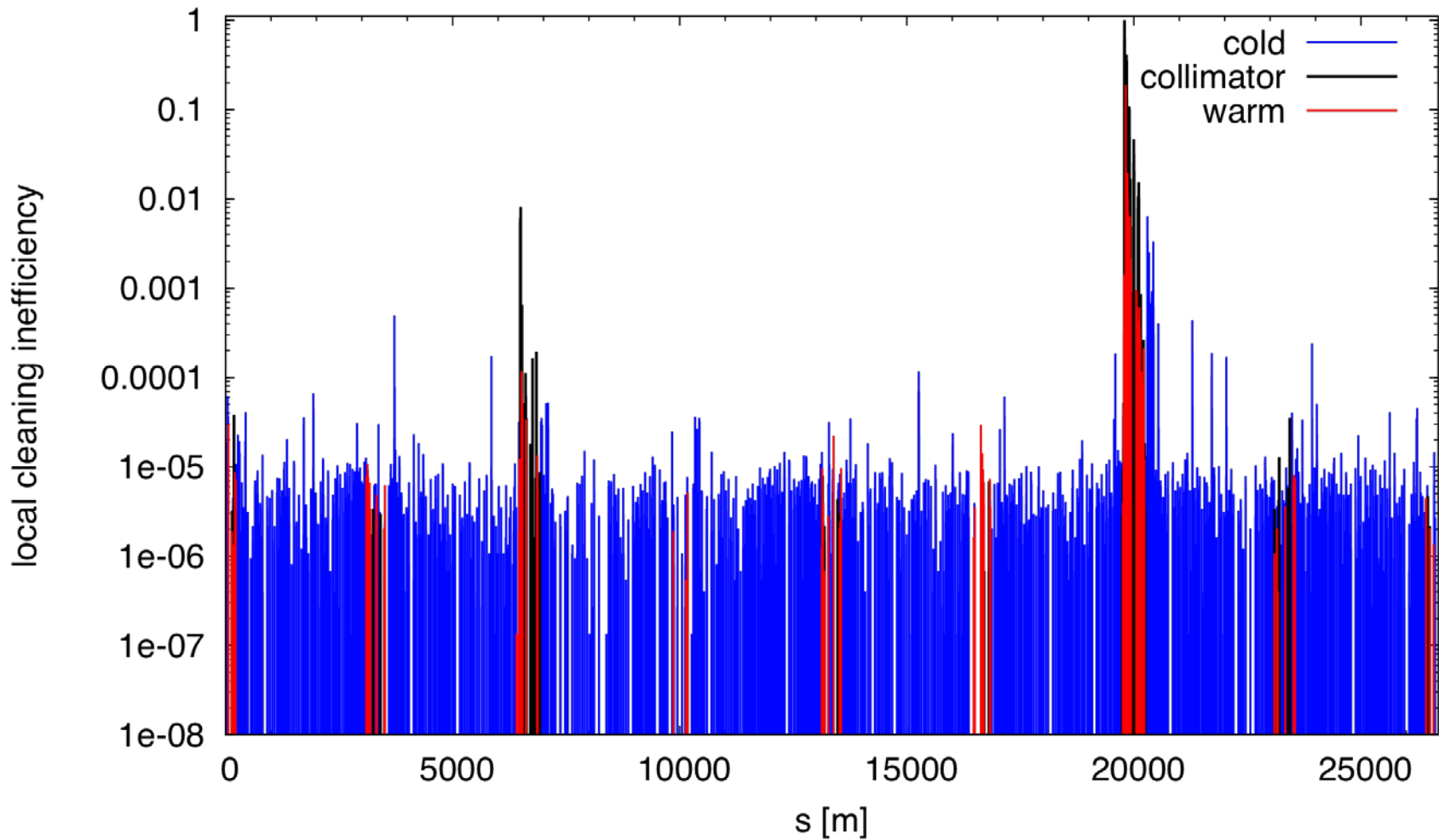
- Collimator centering checks at injection
- TCT setup for collision

Qualification (Hor, Ver, positive/negative off momentum, B1, B2)

- Full set of loss maps at injection
- Full set of loss maps at flat top before squeeze (off momentum for B1+B2 in parallel)
- Full set of loss maps at the end of squeeze (off momentum for B1+B2 in parallel)
- Full set of loss maps in physics conditions (off momentum for B1+B2 in parallel)

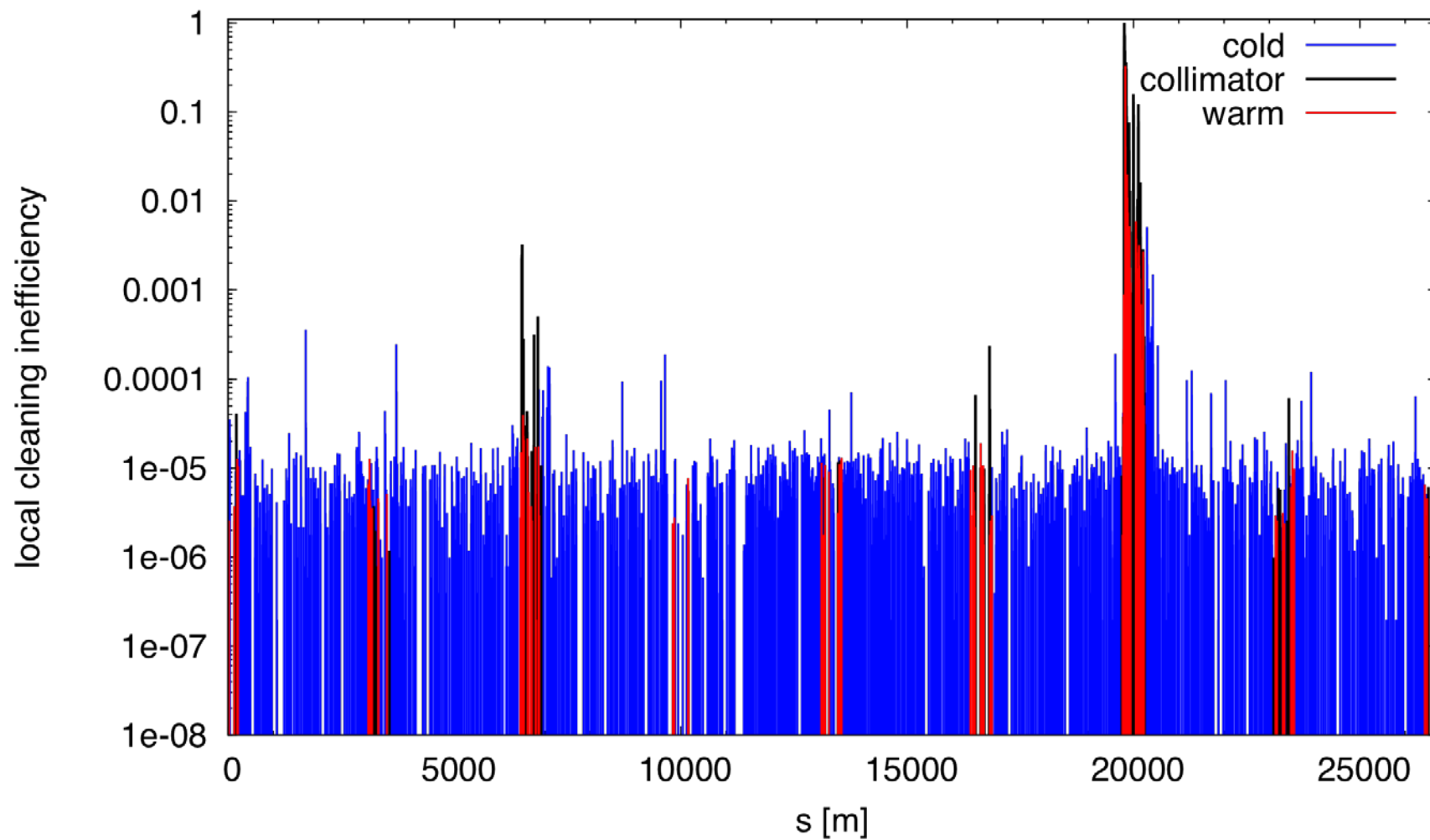
Loss Maps: Injection

betatron losses B1 450GeV ver norm stable beams (2010.11.05, 10:55:34)



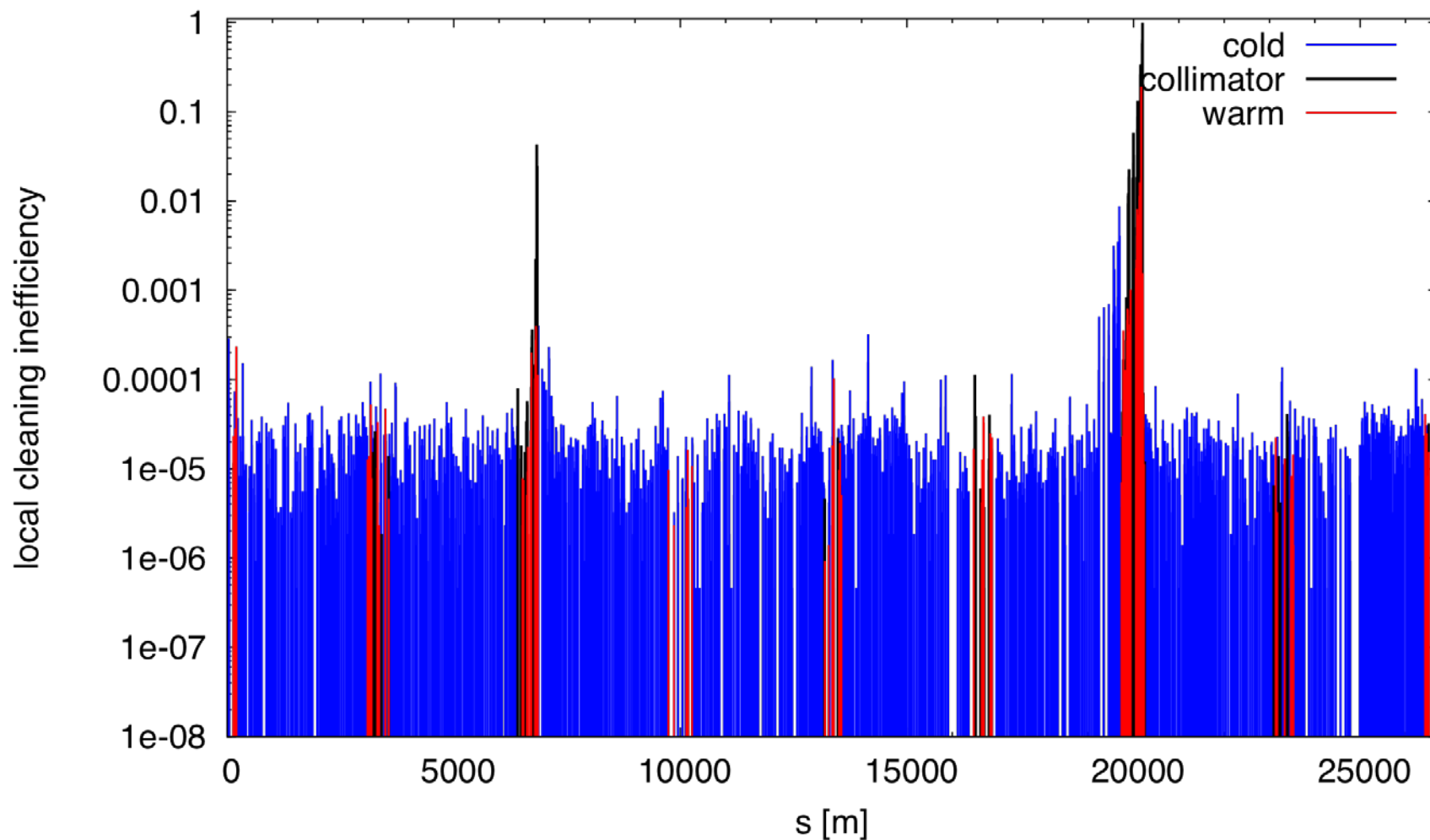
Loss Maps: Injection

betatron losses B1 450GeV hor norm stable beams (2010.11.05, 11:04:11)



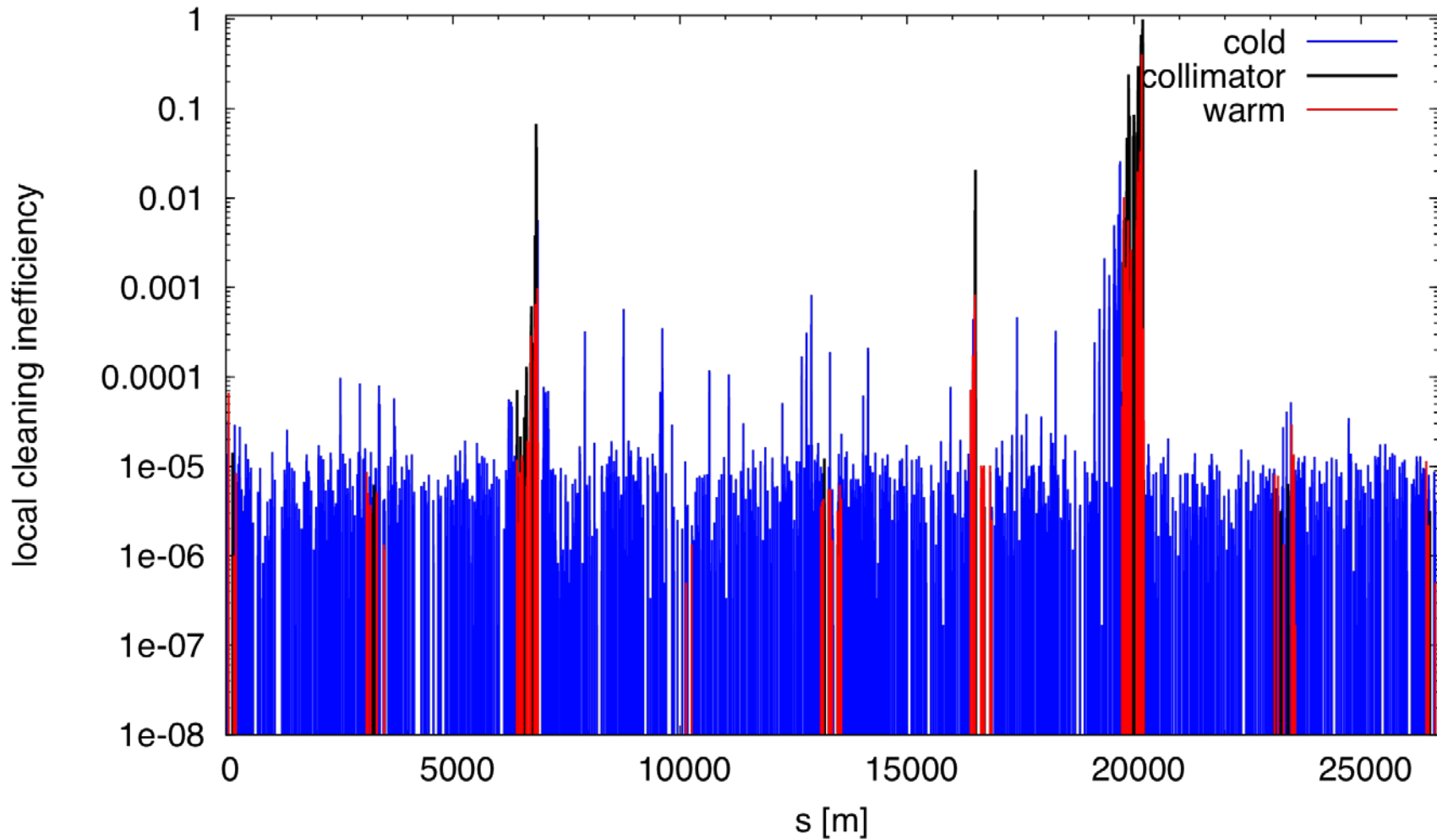
Loss Maps: Injection

betatron losses B2 450GeV ver norm stable beams (2010.11.05, 11:09:37)



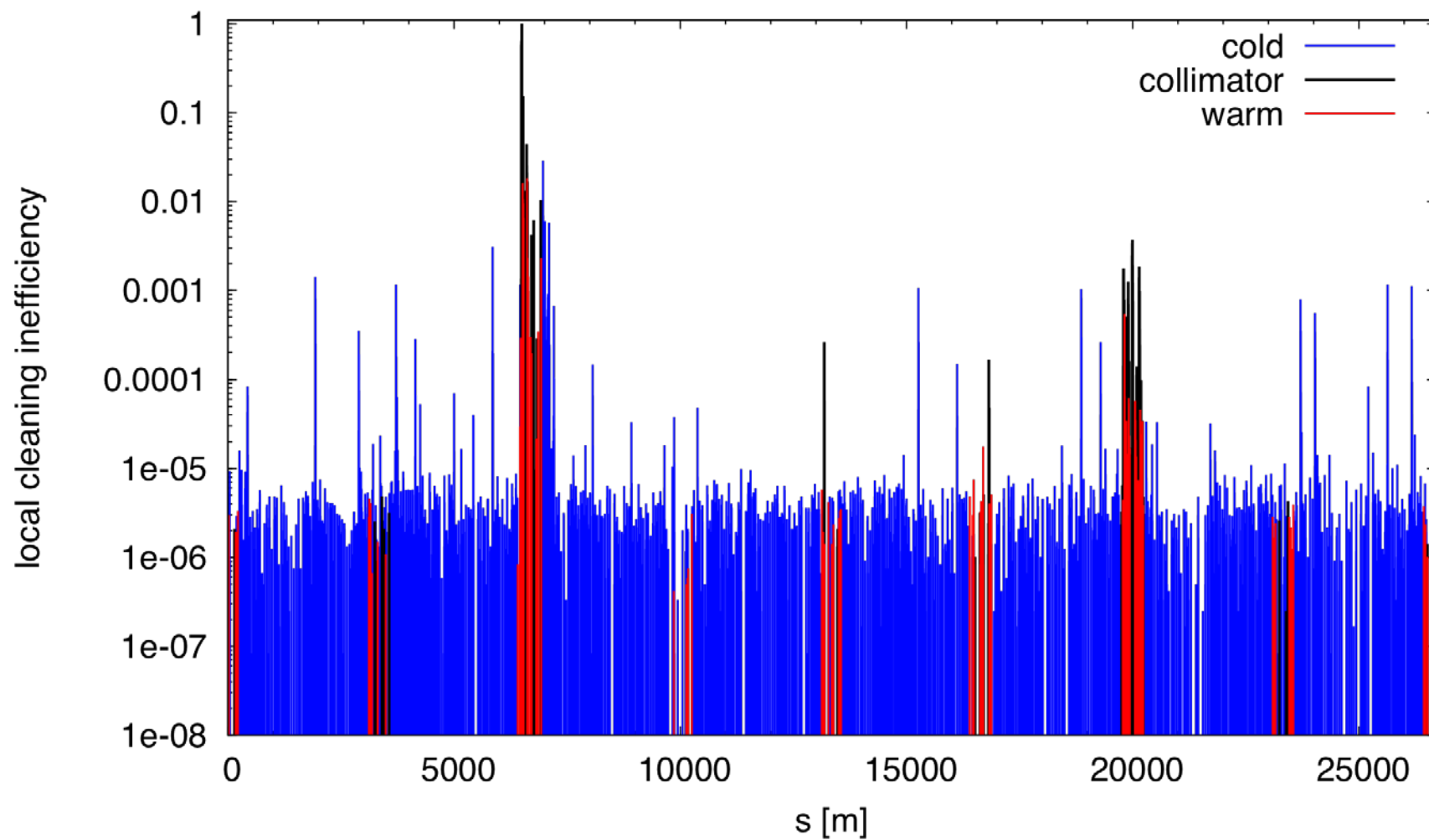
Loss Maps: Injection

betatron losses B2 450GeV hor norm stable beams (2010.11.05, 11:14:28)



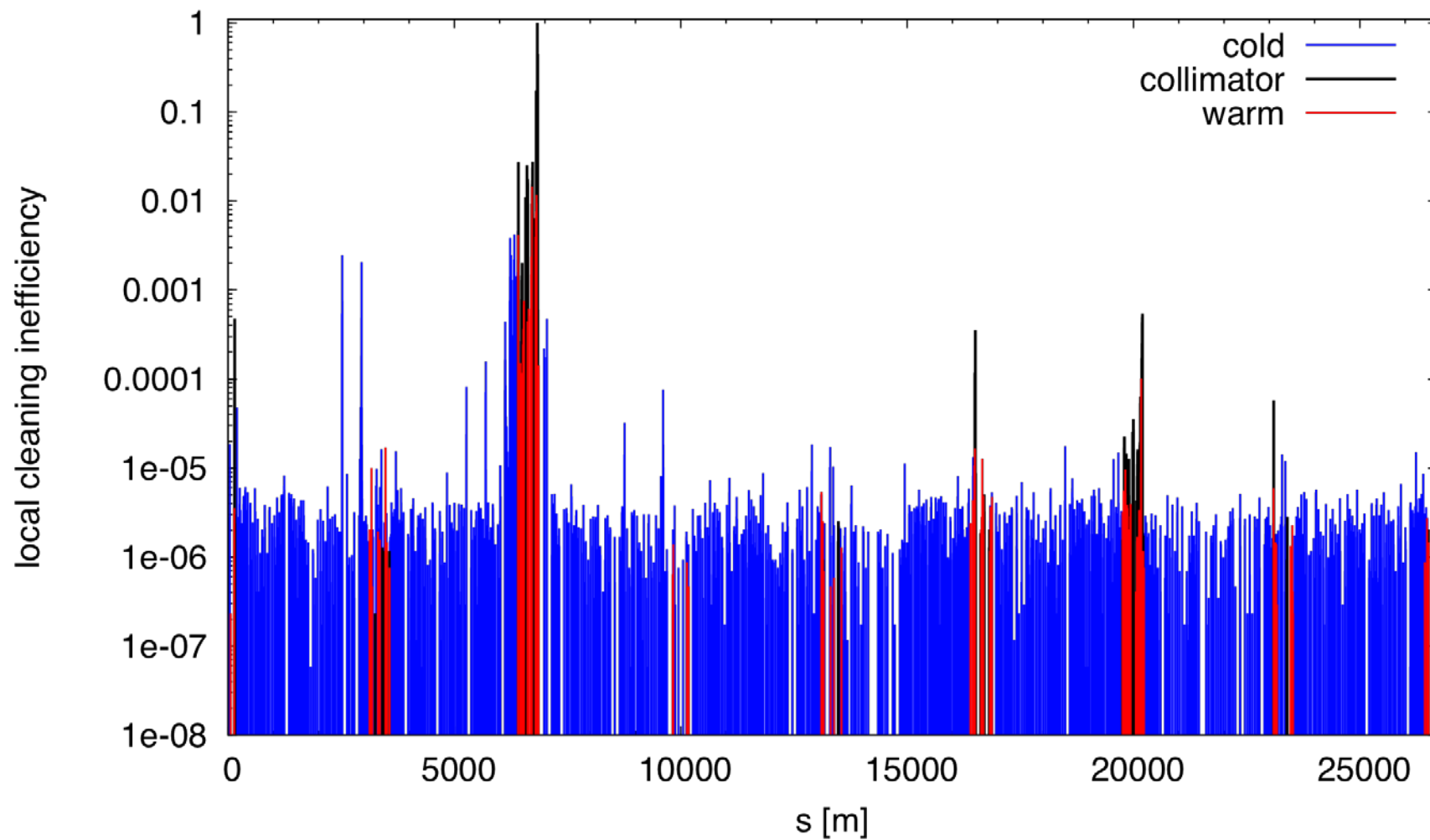
Loss Maps: Injection

momentum losses B1 450GeV neg offset norm stable beams (2010.11.05, 11:42:13)



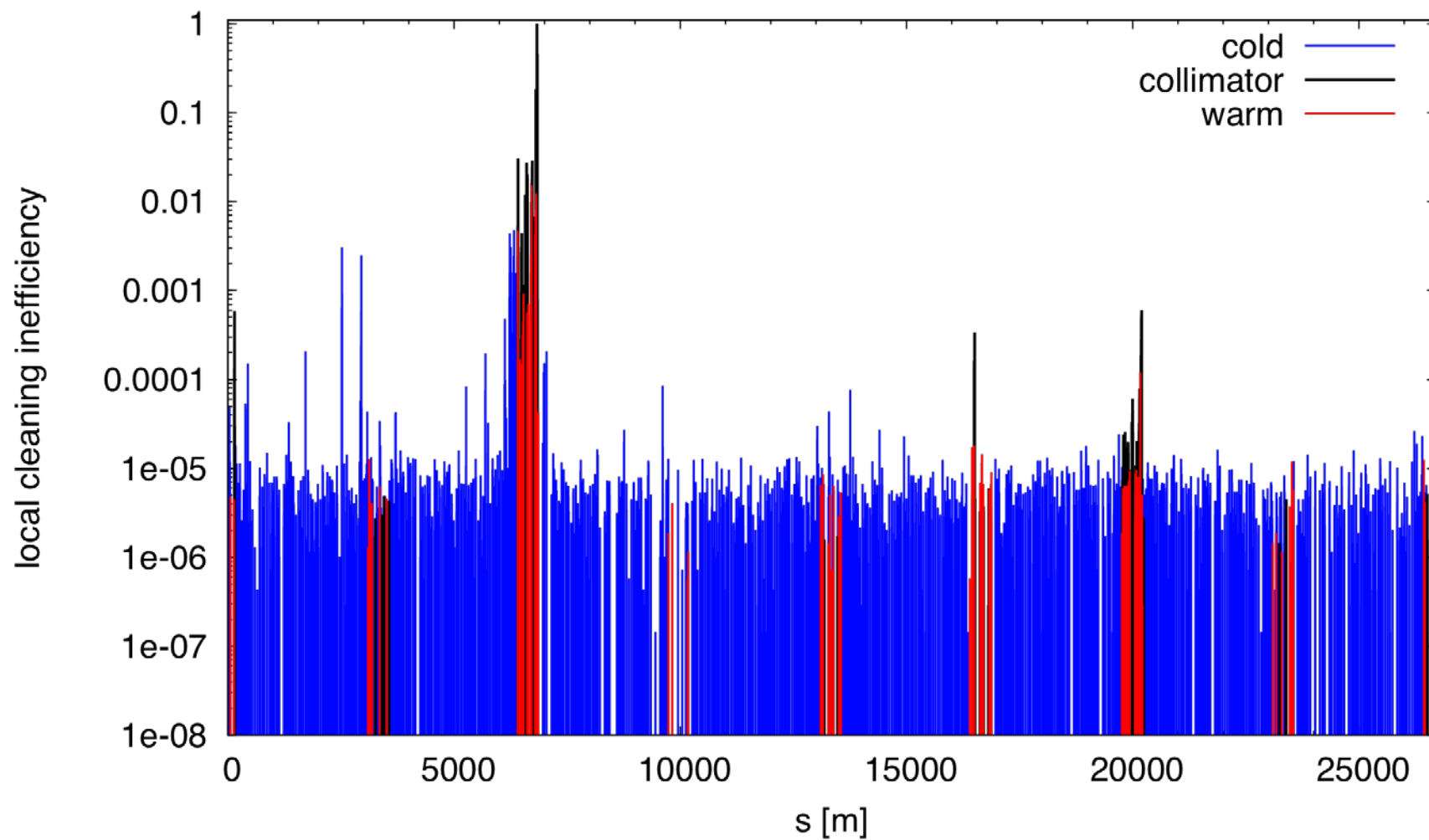
Loss Maps: Injection

momentum losses B2 450GeV neg offset norm stable beams (2010.11.05, 11:53:44)



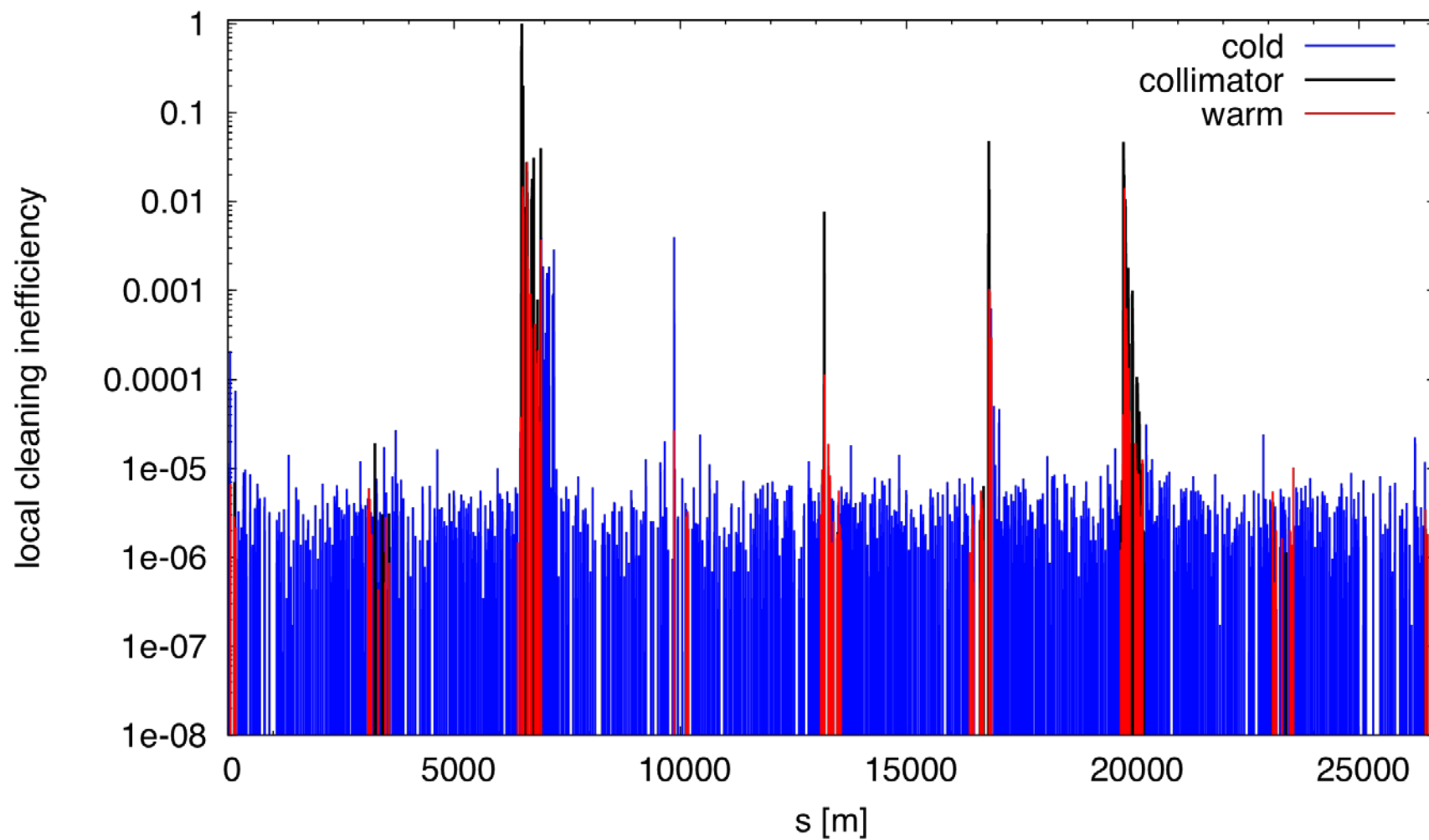
Loss Maps: Injection

momentum losses B2 450GeV neg offset norm stable beams (2010.11.05, 11:59:43)



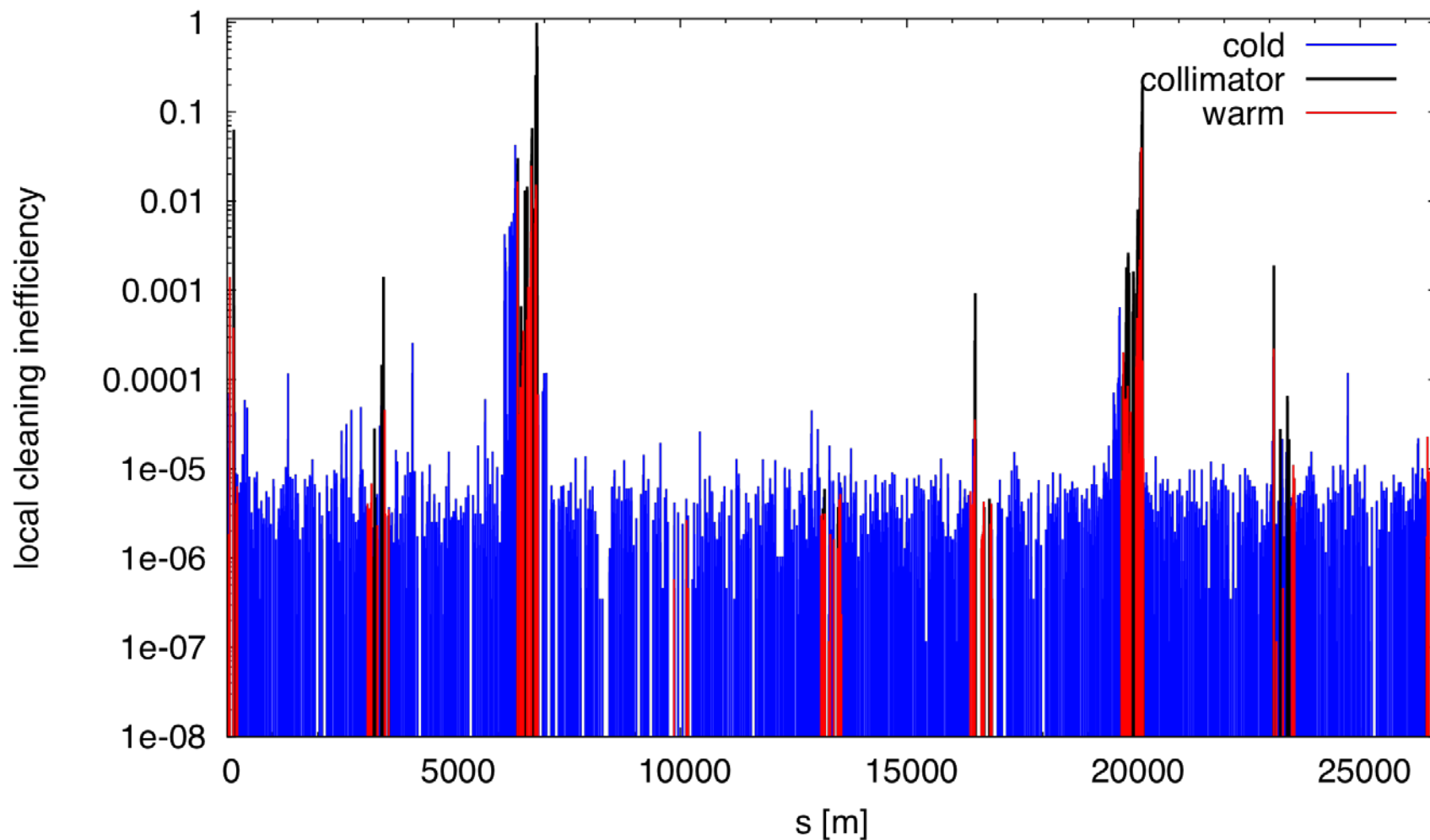
Loss Maps: Injection

momentum losses B1 450GeV pos offset norm stable beams (2010.11.05, 12:08:13)



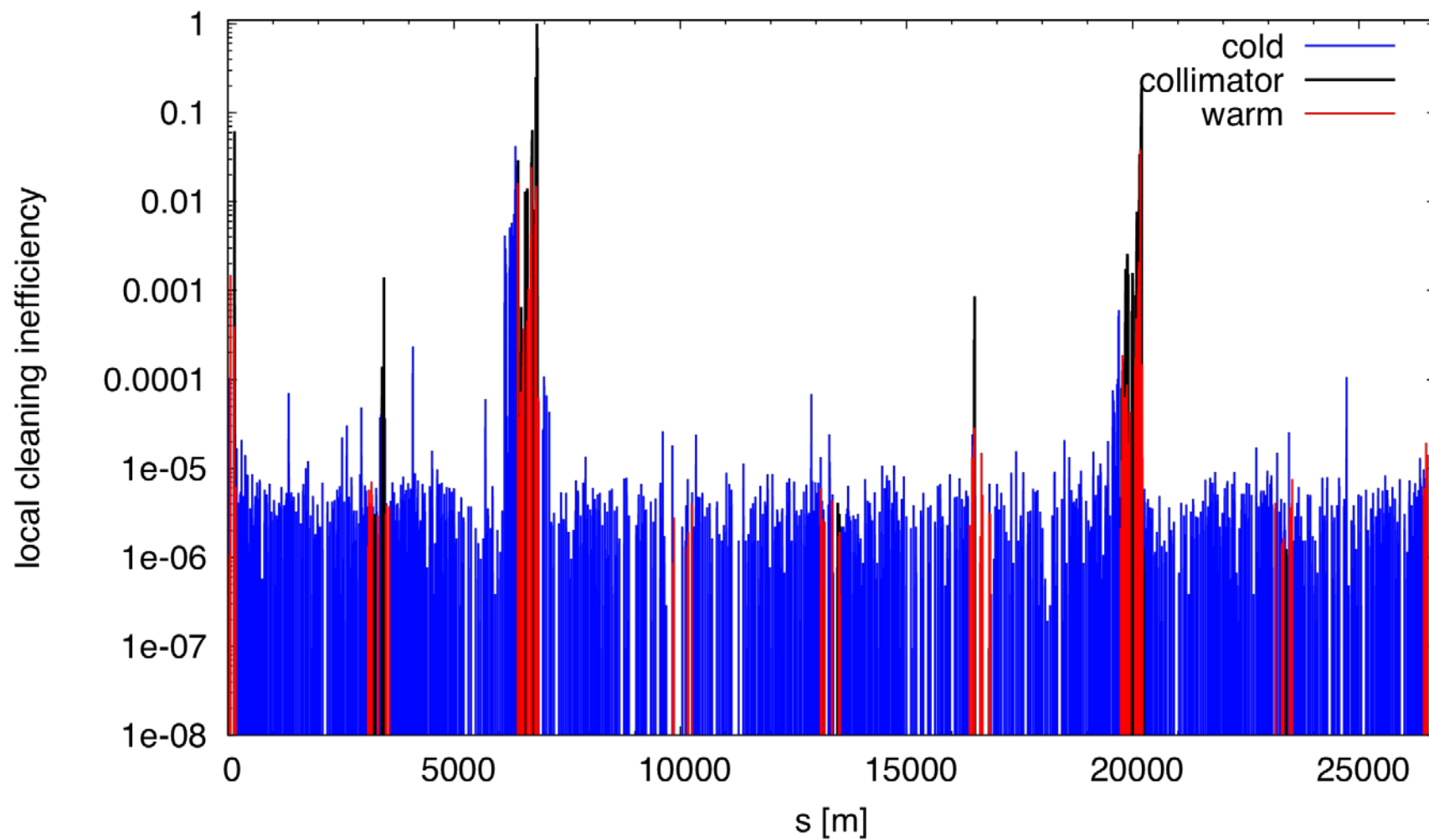
Loss Maps: Injection

momentum losses B2 450GeV pos offset norm stable beams (2010.11.05, 12:11:18)



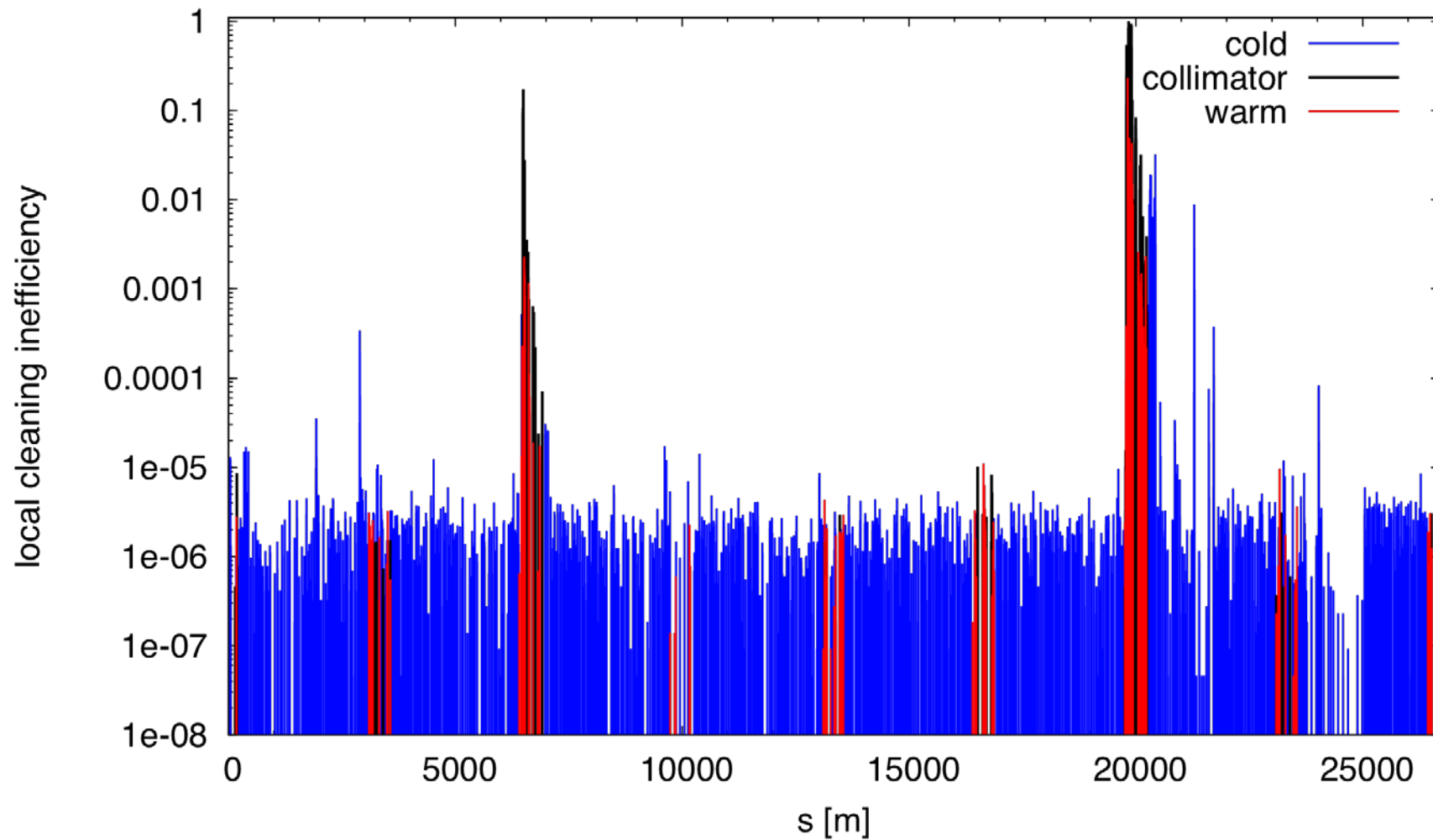
Loss Maps: Injection

momentum losses B2 450GeV pos offset norm stable beams (2010.11.05, 12:18:10)



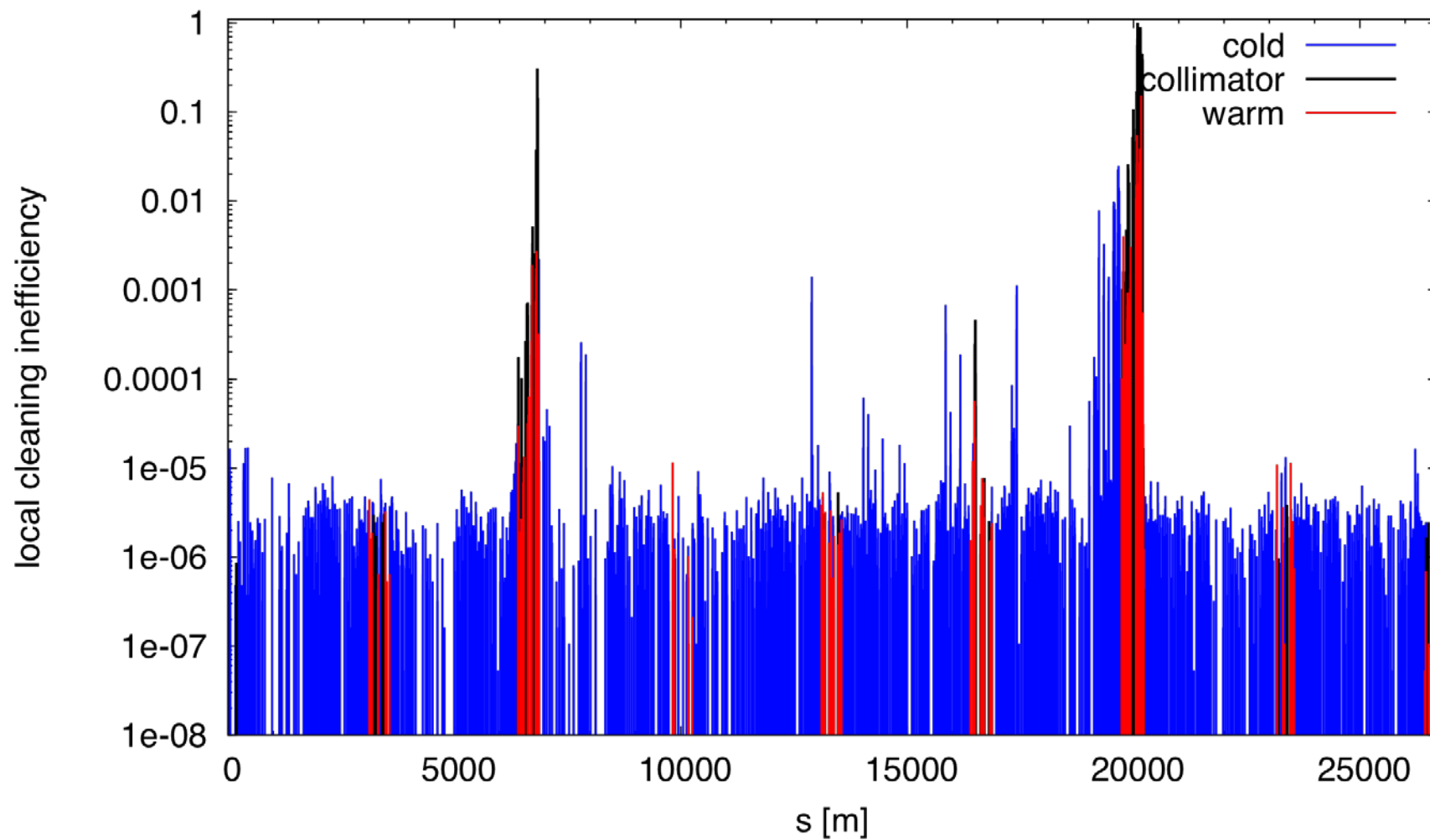
Loss Maps: 3.5 TeV FT before squeeze

betatron losses B1 3500GeV ver norm stable beams (2010.11.05, 17:09:13)



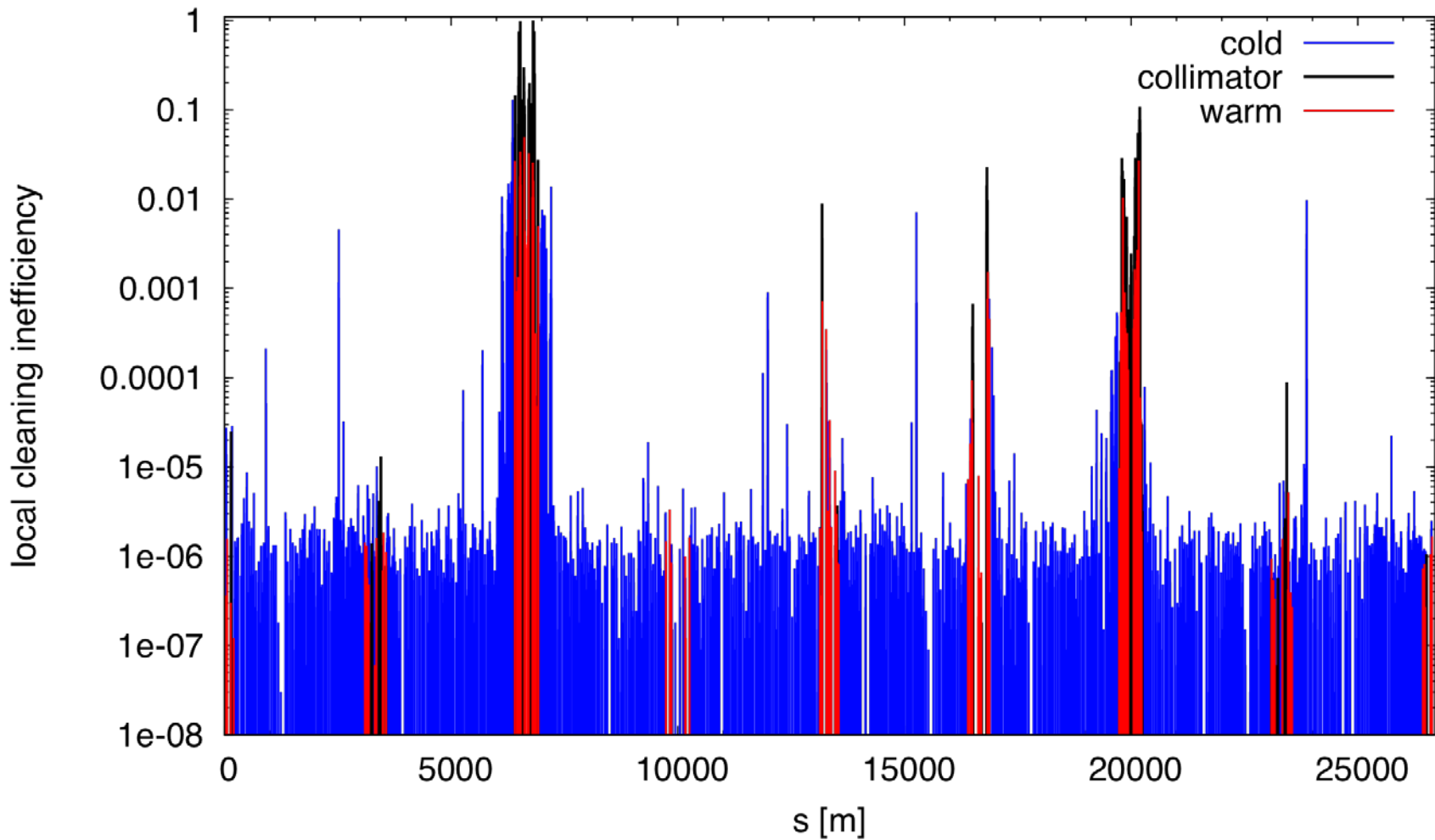
Loss Maps: 3.5 TeV FT before squeeze

betatron losses B2 3500GeV ver norm stable beams (2010.11.05, 17:14:04)



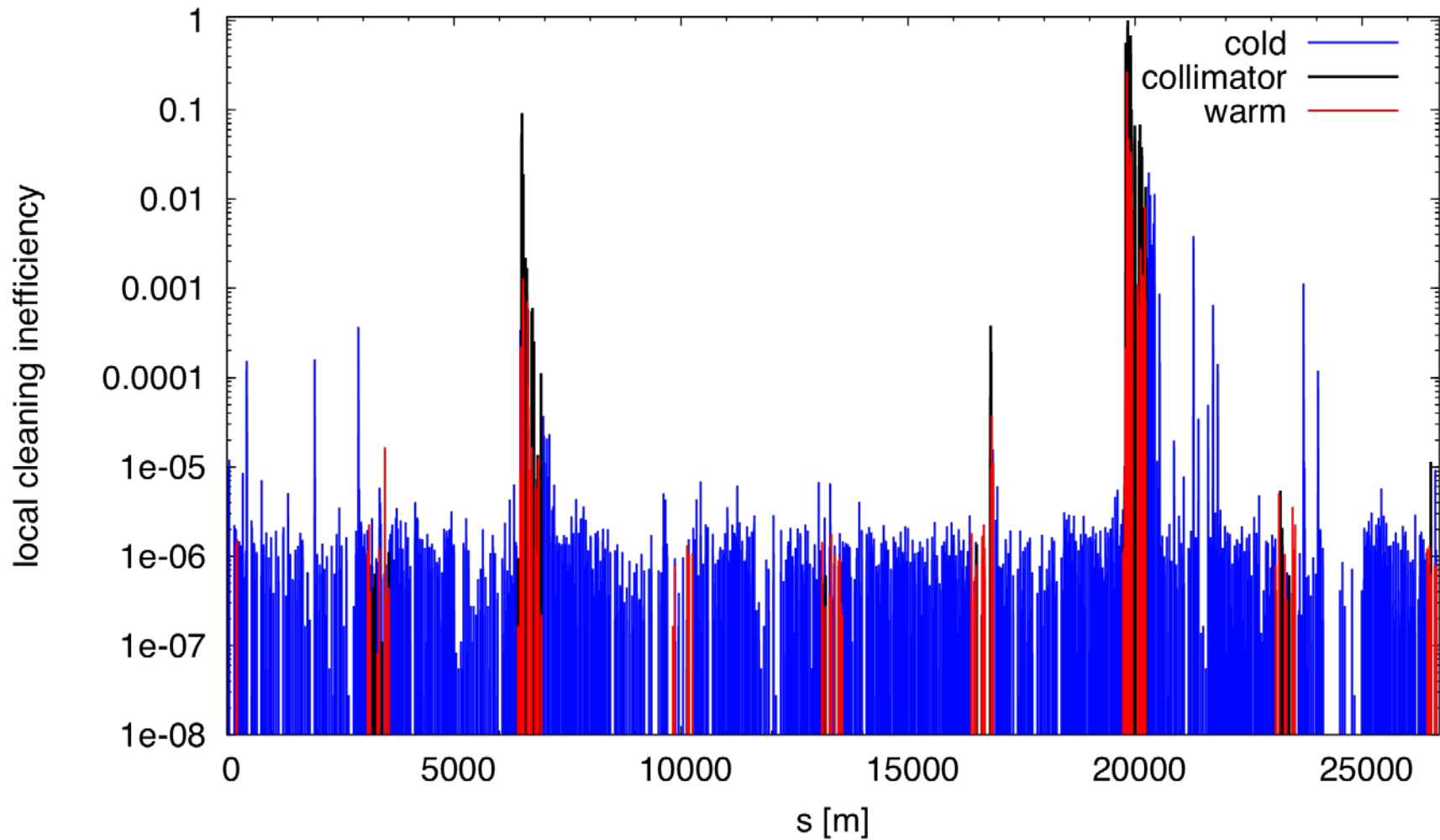
Loss Maps: 3.5 TeV FT before squeeze

momentum B1 and B2 3500GeV pos offset norm stable beams (2010.11.05, 17:20:07)



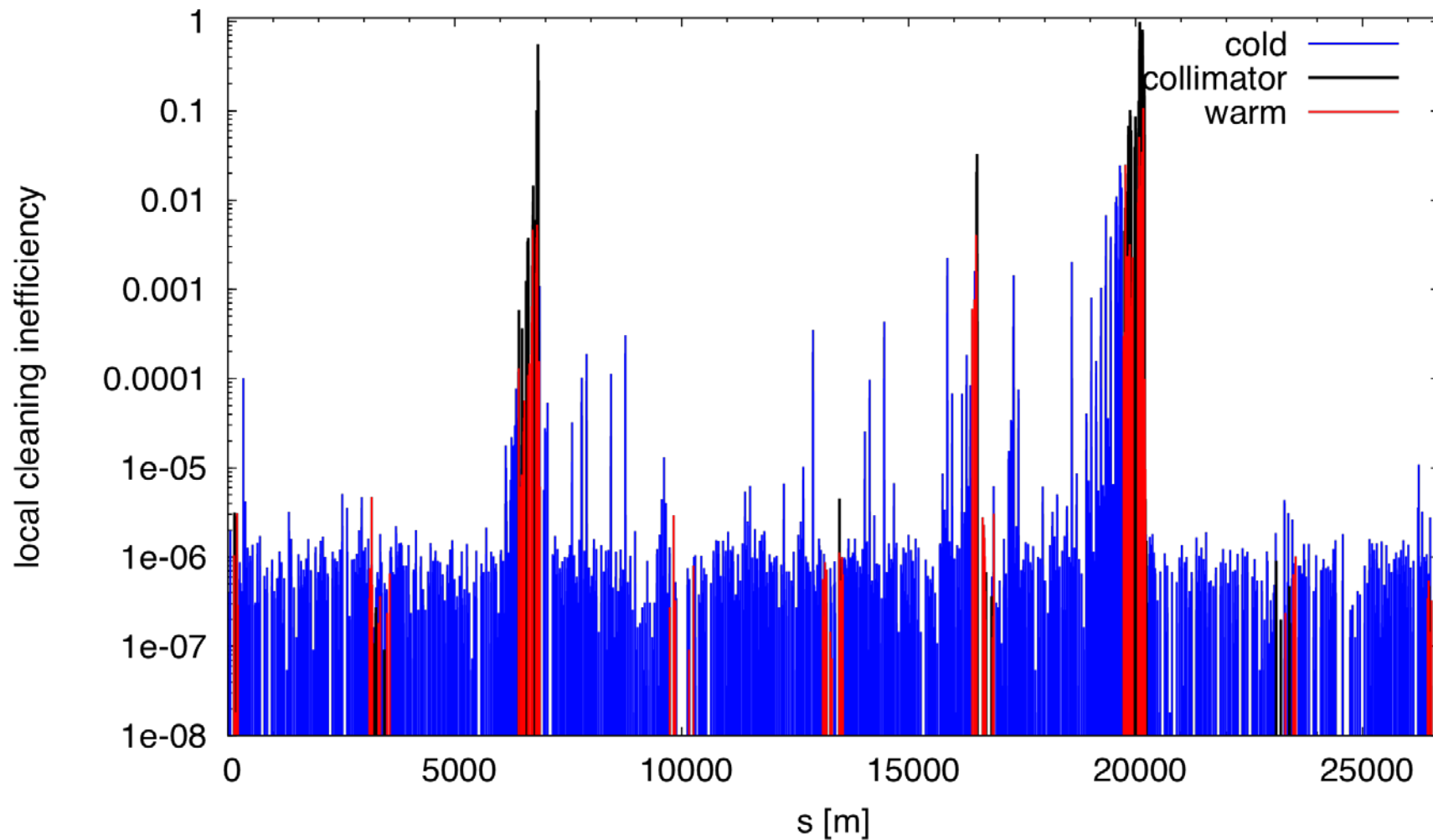
Loss Maps: 3.5 TeV FT before squeeze

betatron losses B1 3500GeV hor norm stable beams (2010.11.05, 19:18:26)



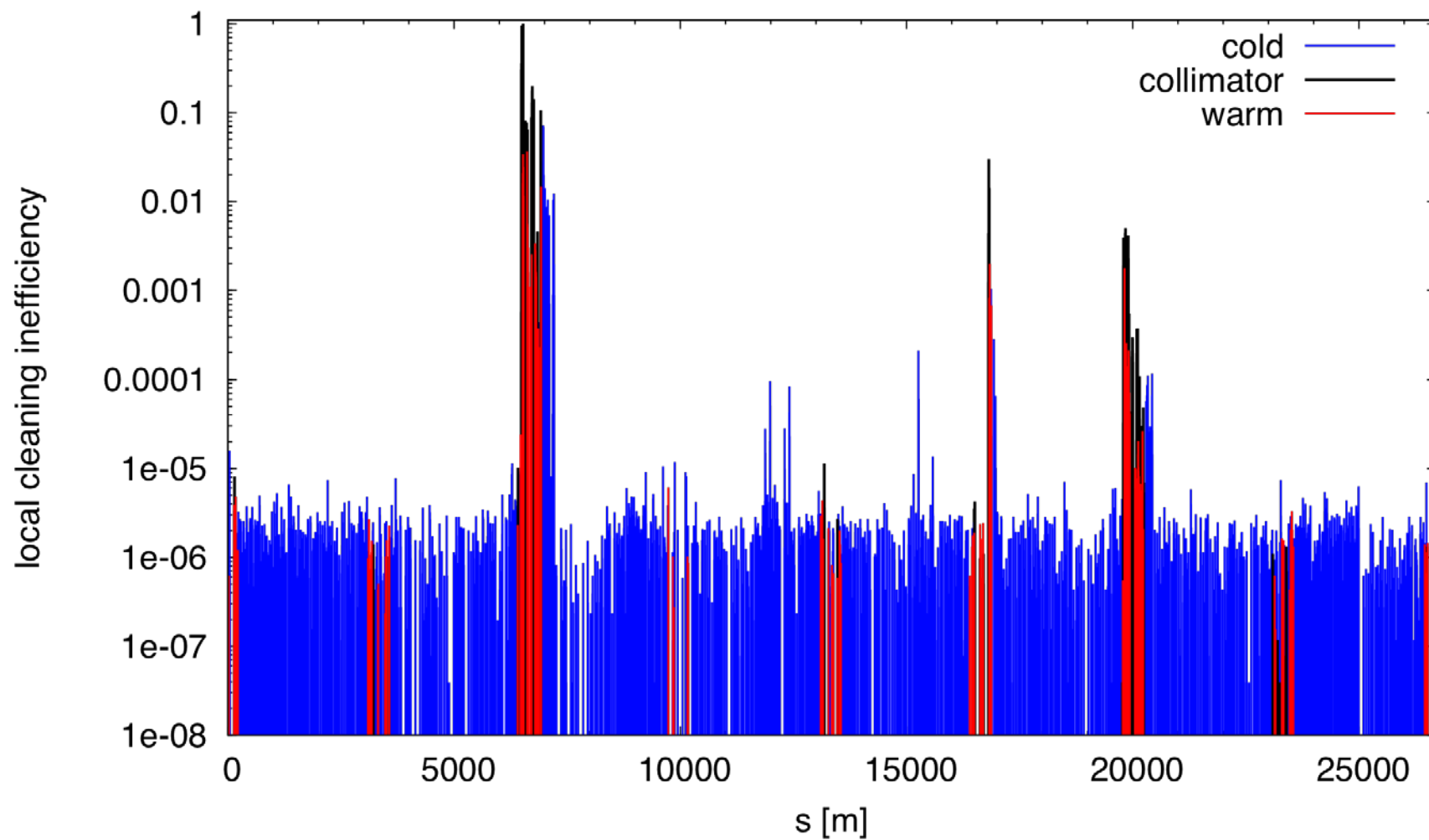
Loss Maps: 3.5 TeV FT before squeeze

betatron losses B2 3500GeV hor norm stable beams (2010.11.05, 19:24:01)



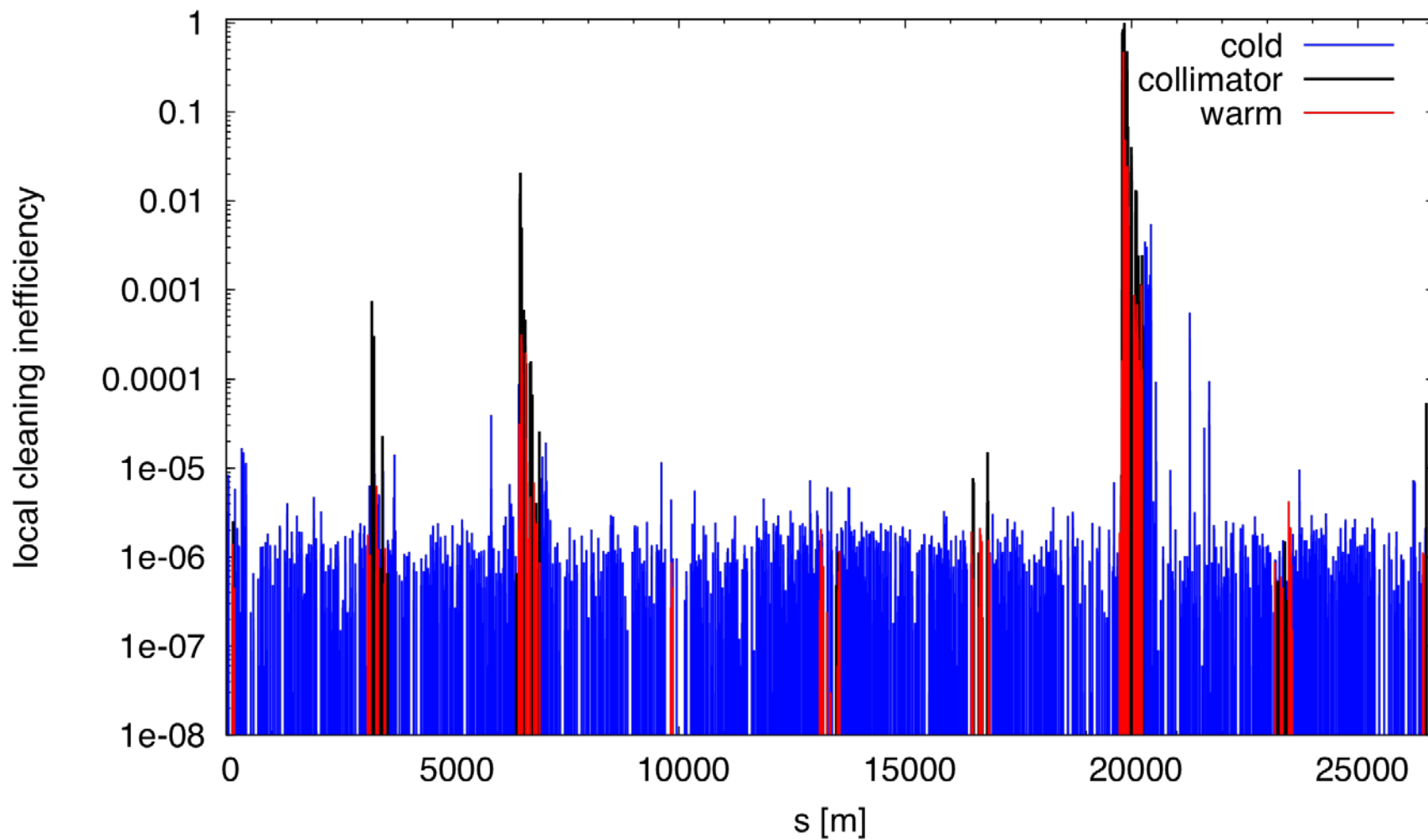
Loss Maps: 3.5 TeV FT before squeeze

momentum B1 and B2 3500GeV neg offset norm stable beams (2010.11.05, 19:26:20)



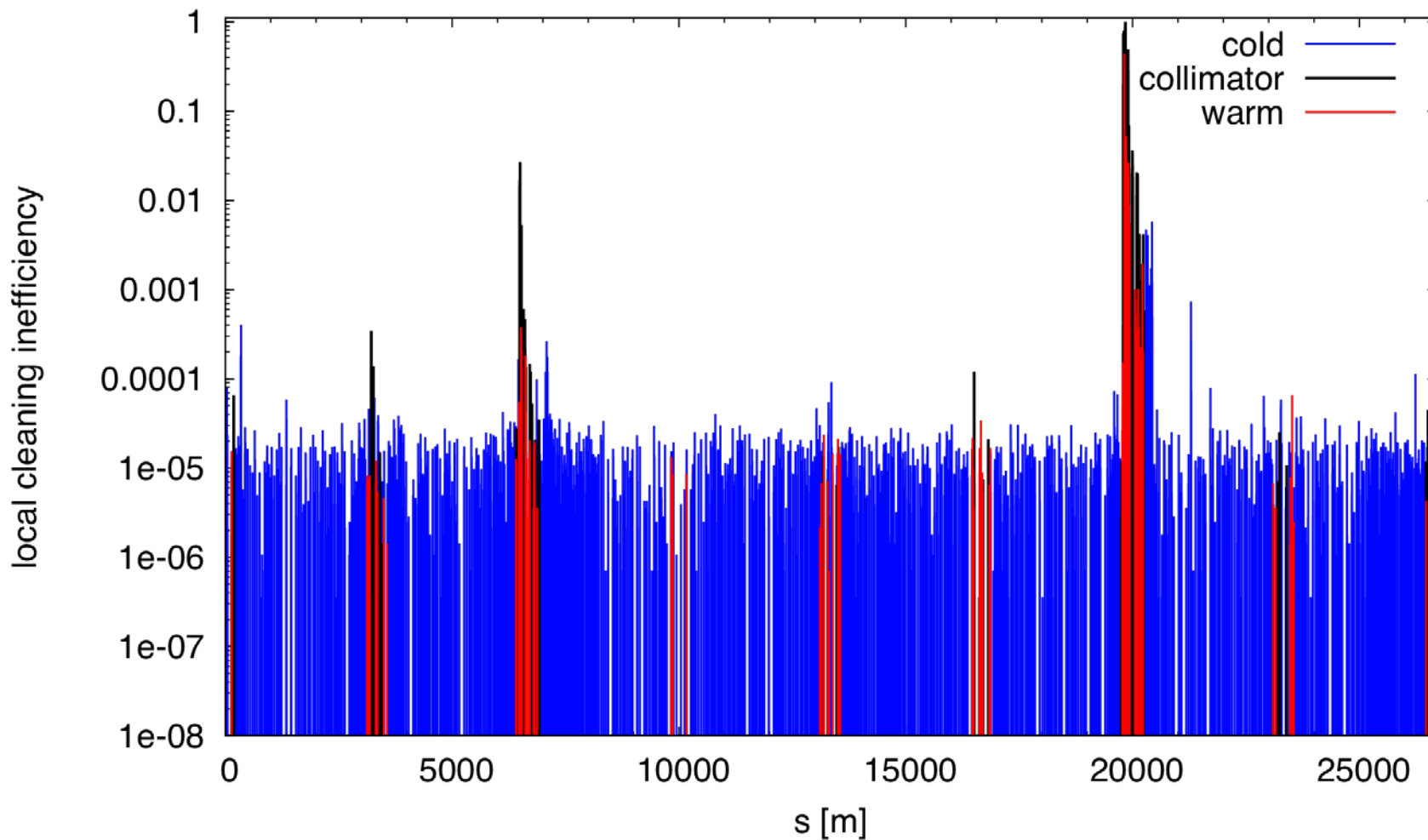
Loss Maps: 3.5 TeV FT after squeeze

betatron losses B1 3500GeV ver norm stable beams (2010.11.06, 07:33:34)



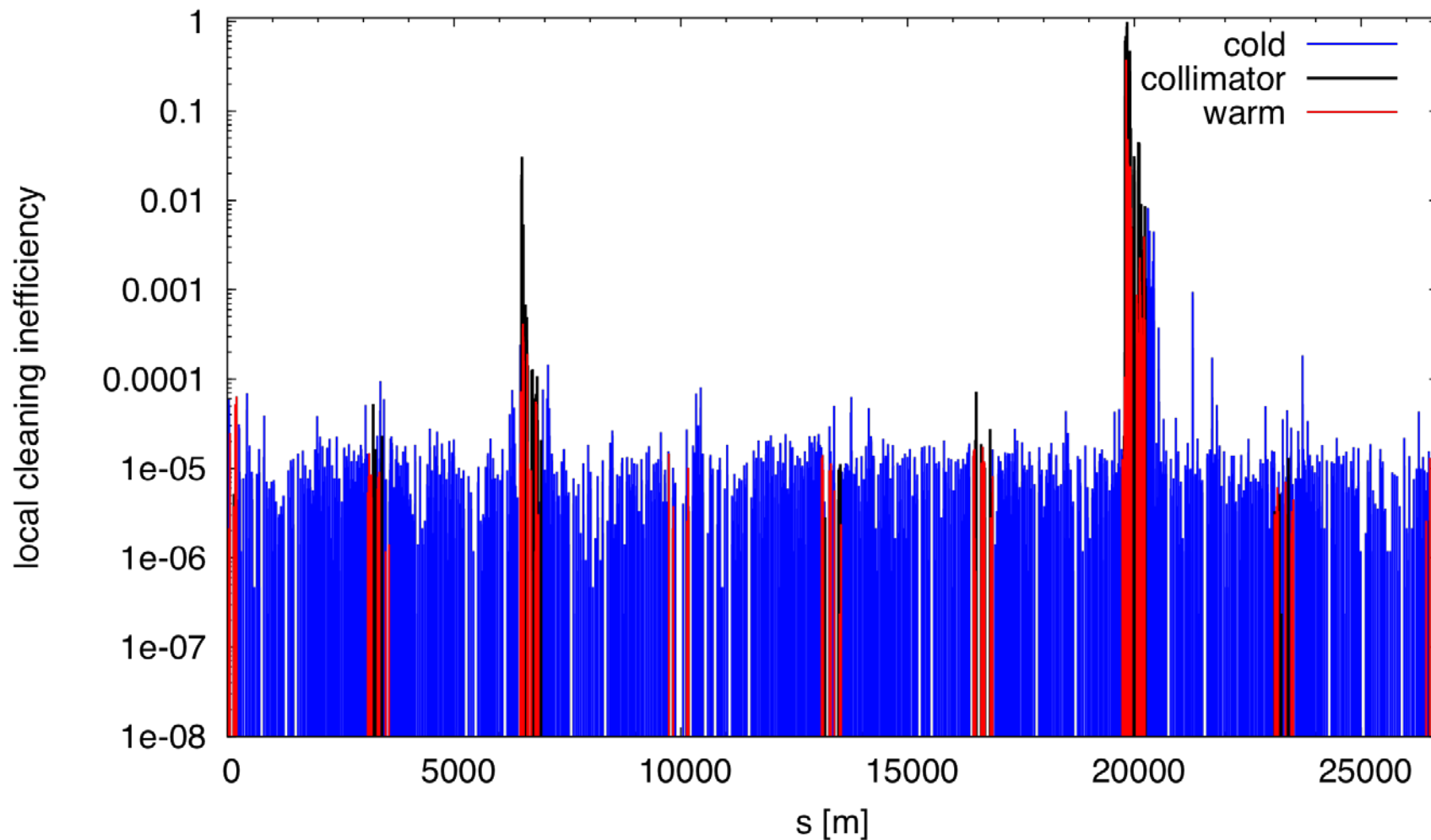
Loss Maps: 3.5 TeV FT after squeeze

betatron losses B1 3500GeV ver norm stable beams (2010.11.06, 07:46:05)



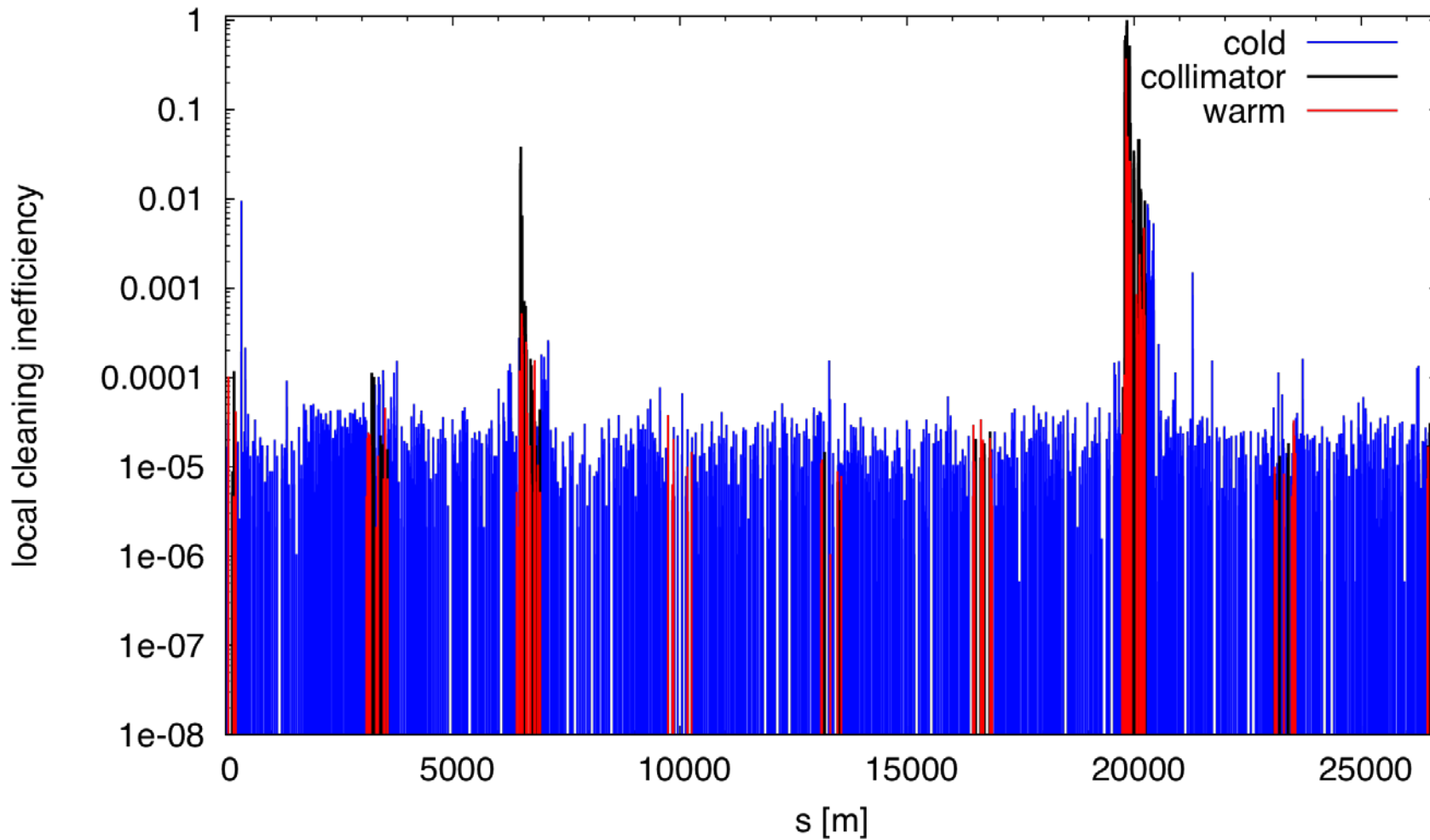
Loss Maps: 3.5 TeV FT after squeeze

betatron losses B1 3500GeV hor norm stable beams (2010.11.06, 07:36:00)



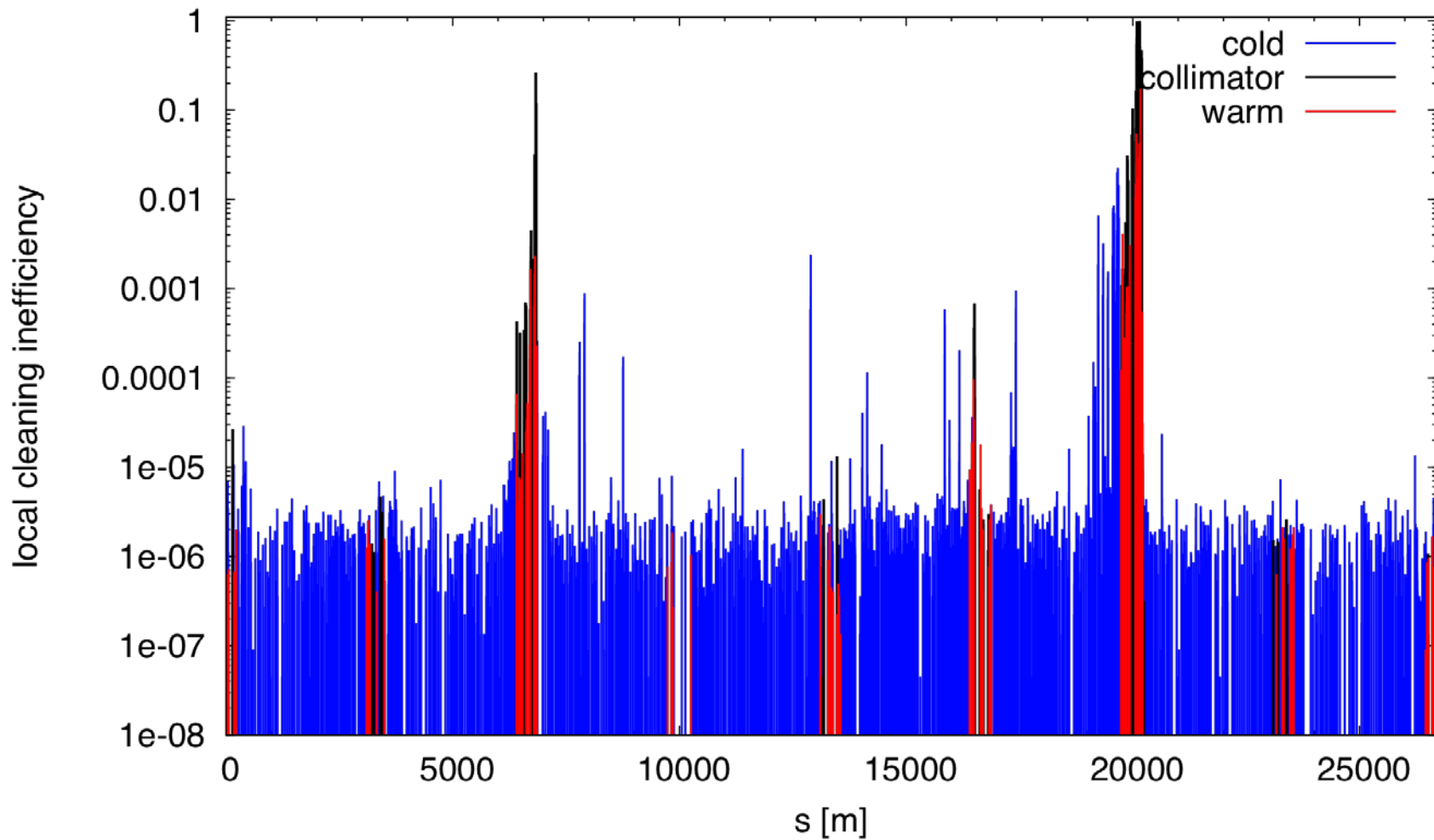
Loss Maps: 3.5 TeV FT after squeeze

betatron losses B1 3500GeV hor norm stable beams (2010.11.06, 07:45:11)



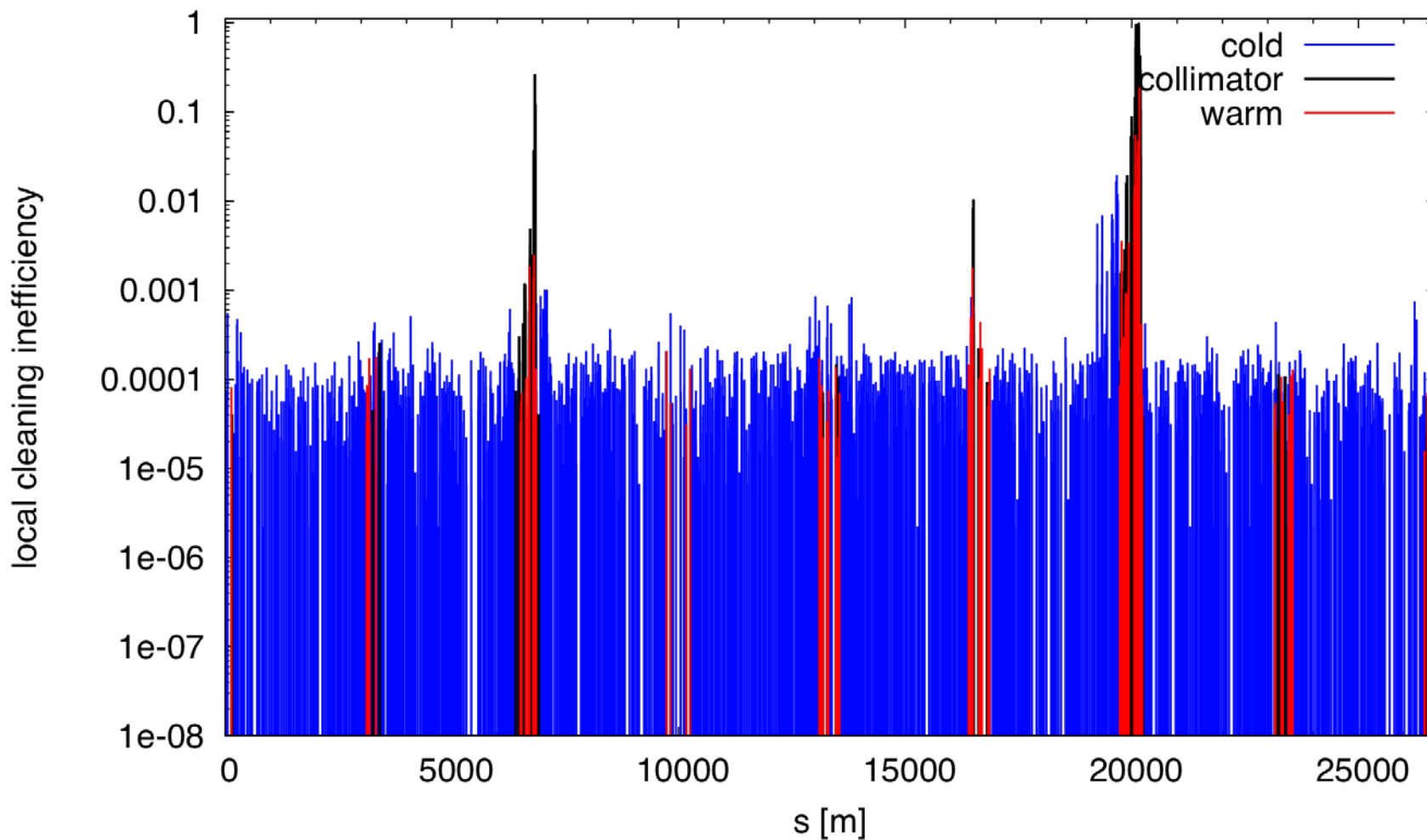
Loss Maps: 3.5 TeV FT after squeeze

betatron losses B2 3500GeV ver norm stable beams (2010.11.06, 07:37:50)



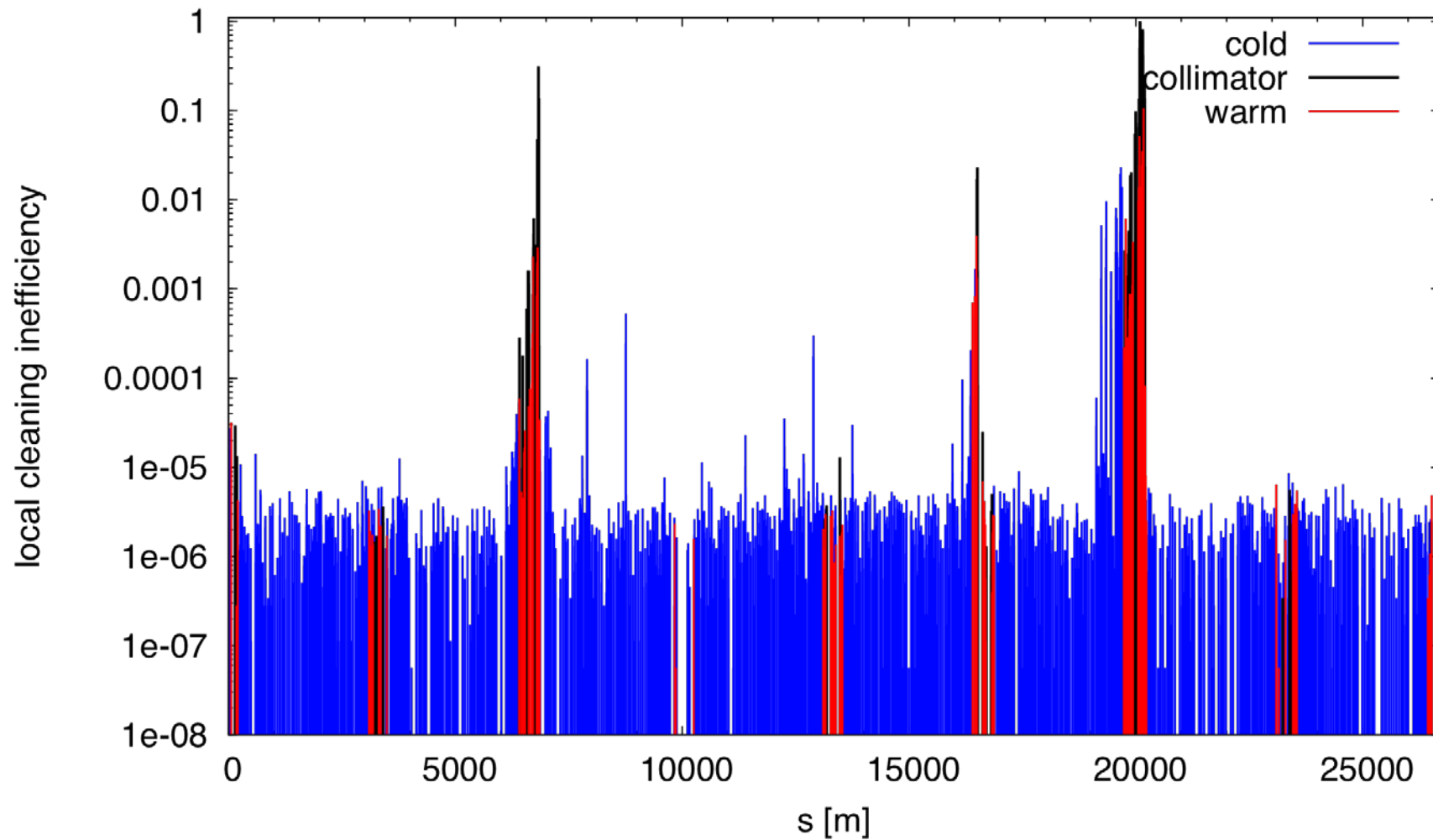
Loss Maps: 3.5 TeV FT after squeeze

betatron losses B2 3500GeV ver norm stable beams (2010.11.06, 07:43:46)



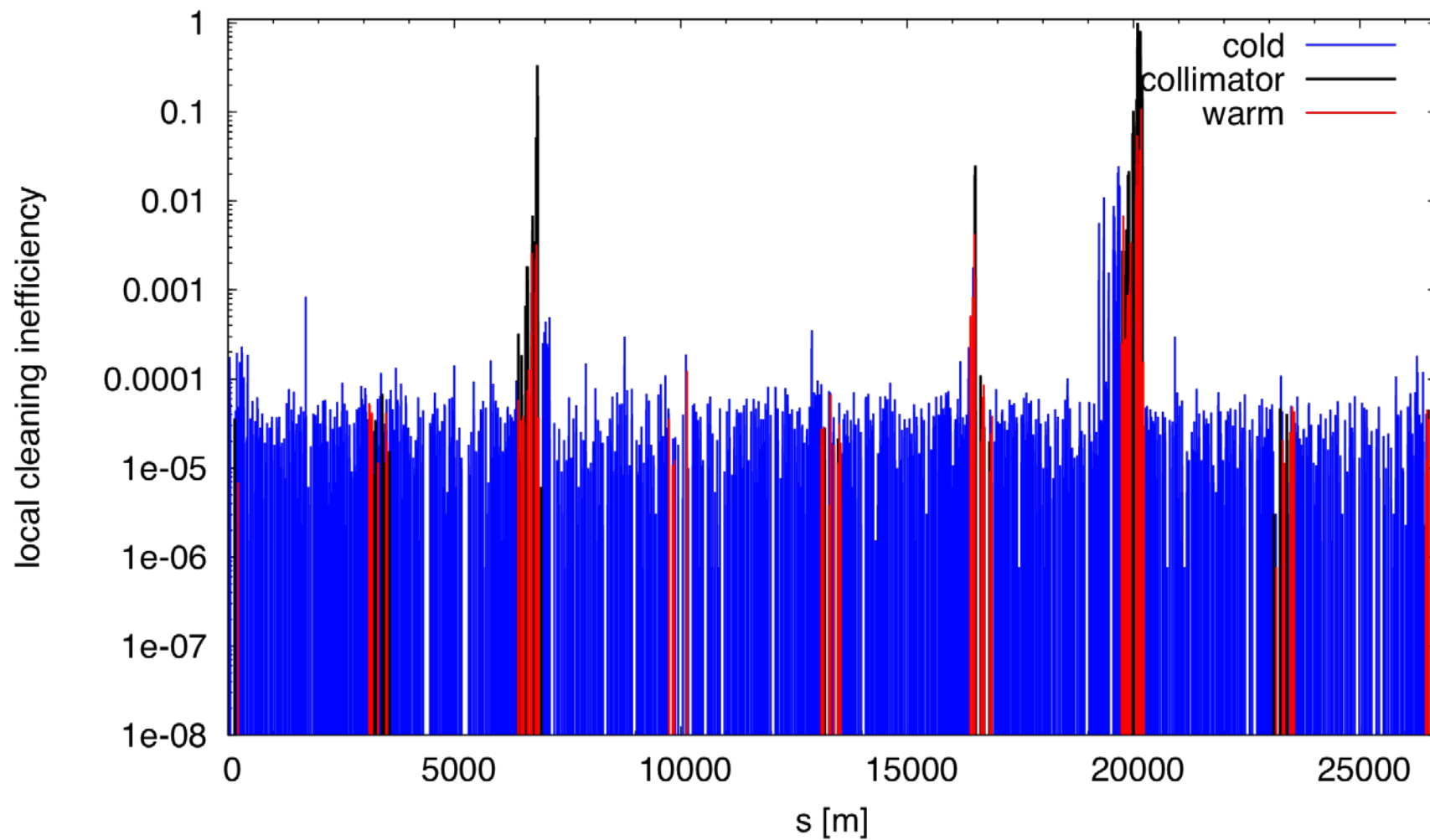
Loss Maps: 3.5 TeV FT after squeeze

betatron losses B2 3500GeV hor norm stable beams (2010.11.06, 07:40:23)



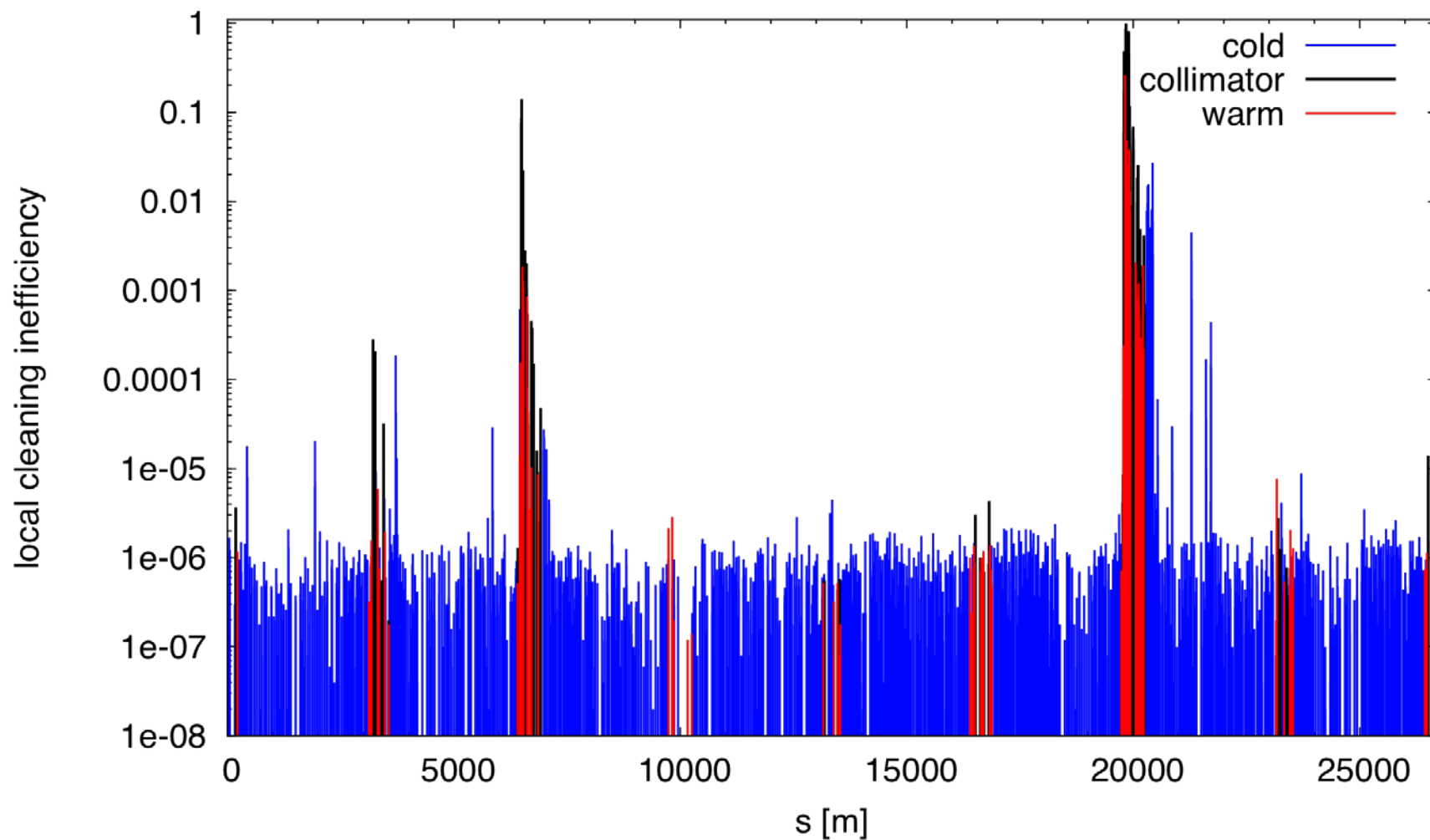
Loss Maps: 3.5 TeV FT after squeeze

betatron losses B2 3500GeV hor norm stable beams (2010.11.06, 07:42:09)



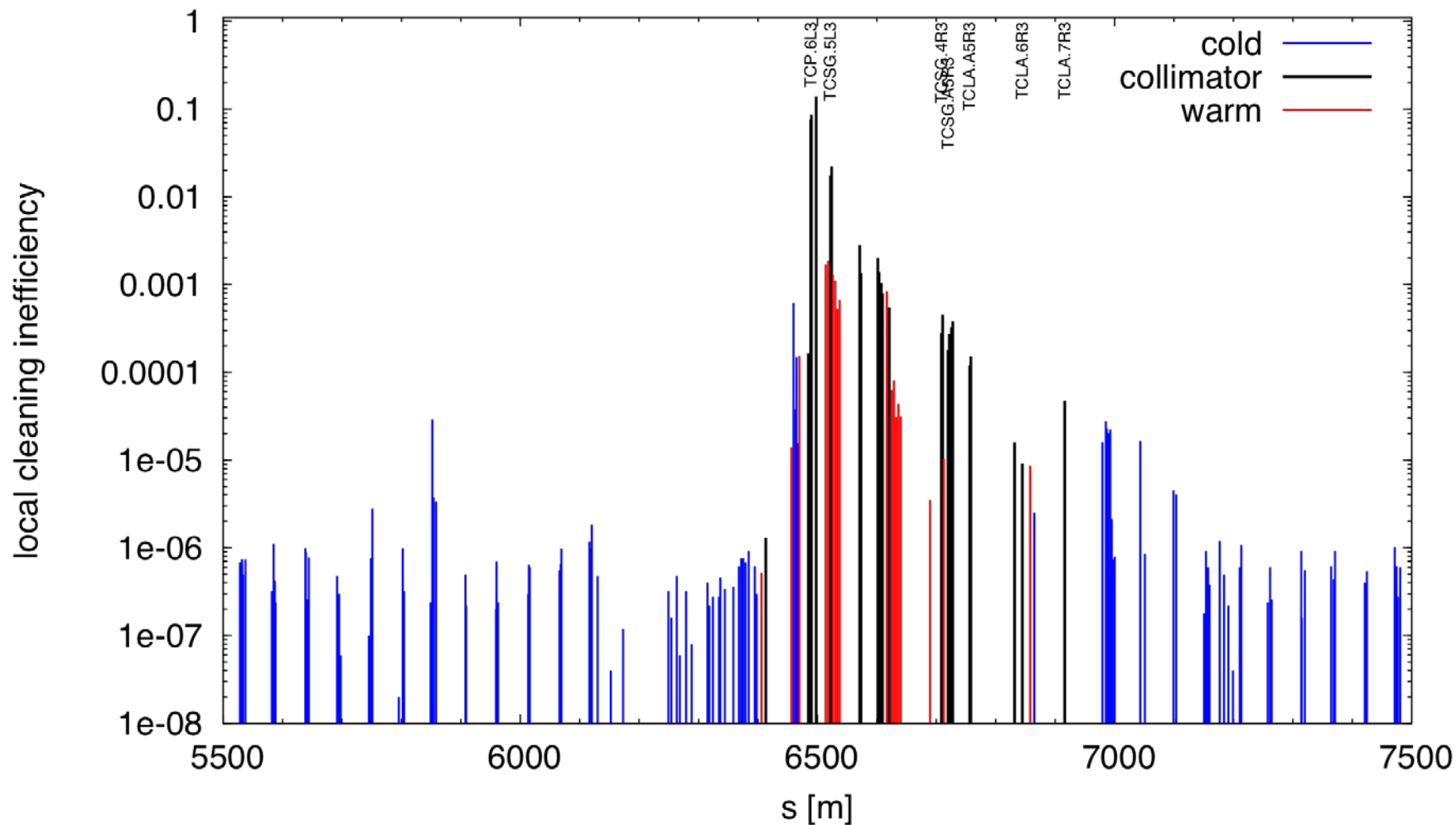
Loss Maps: Physics Conditions

betatron losses B1 3500GeV ver norm stable beams (2010.11.07, 22:08:02)



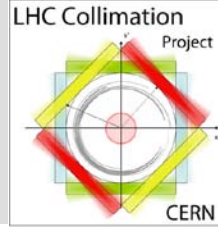
Loss Maps: Physics Conditions

betatron losses B1 3500GeV ver stable beams IR3 (2010.11.07, 22:08:02)

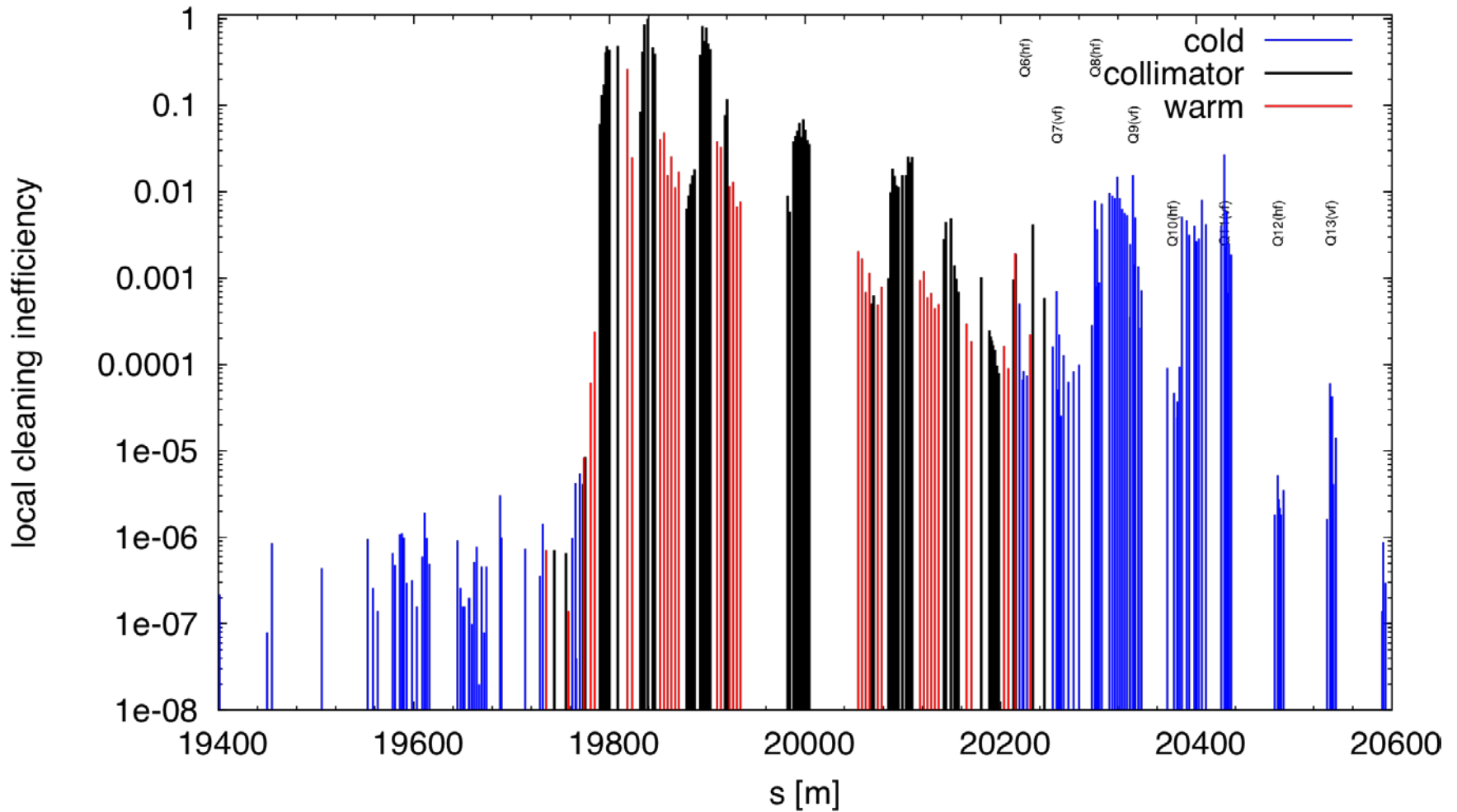




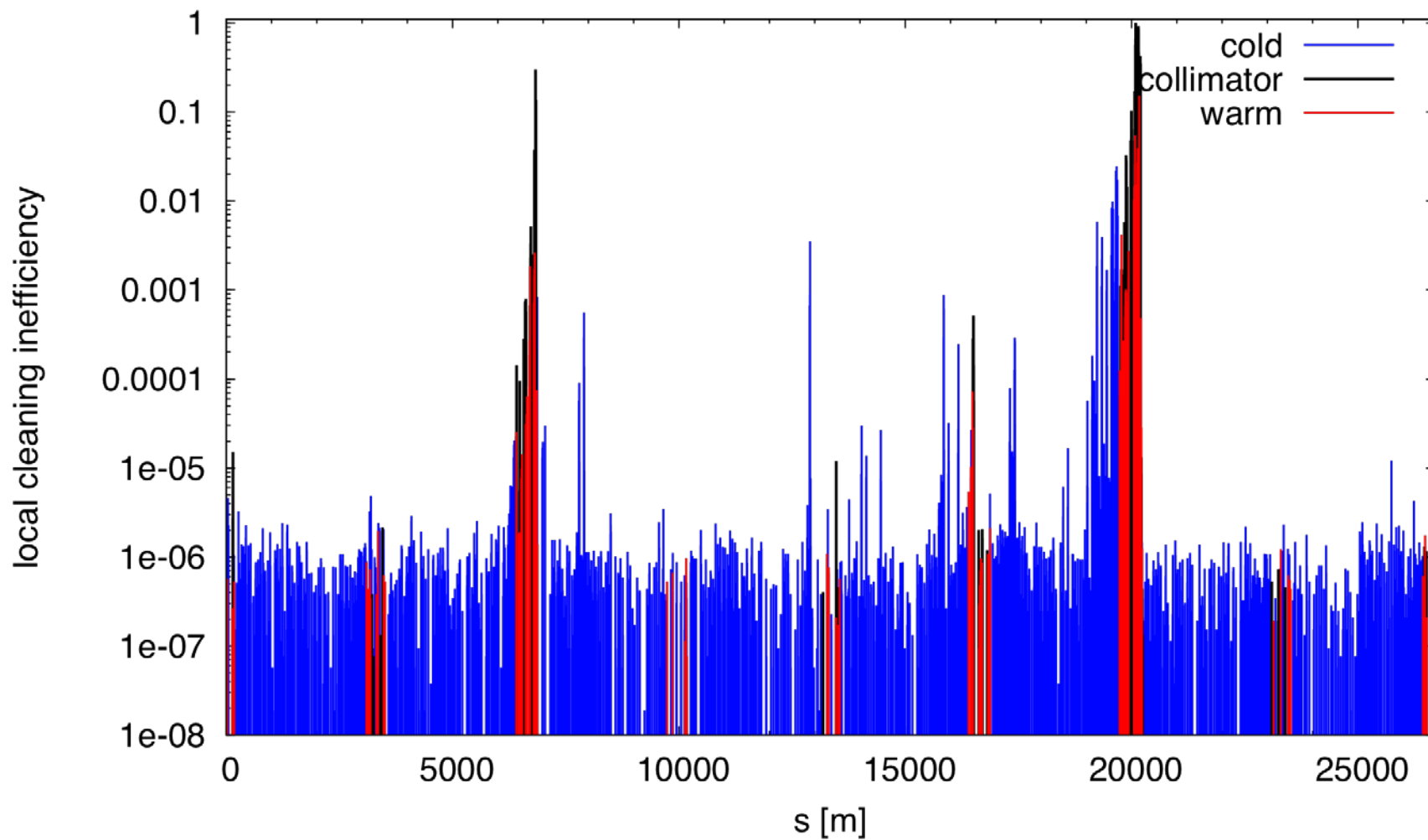
Loss Maps: Physics Conditions



betatron losses B1 3500GeV ver stable beams IR7 (2010.11.07, 22:08:02)

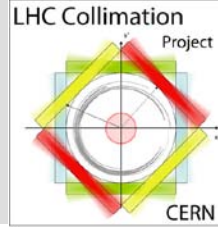


betatron losses B2 3500GeV ver norm stable beams (2010.11.07, 22:14:58)

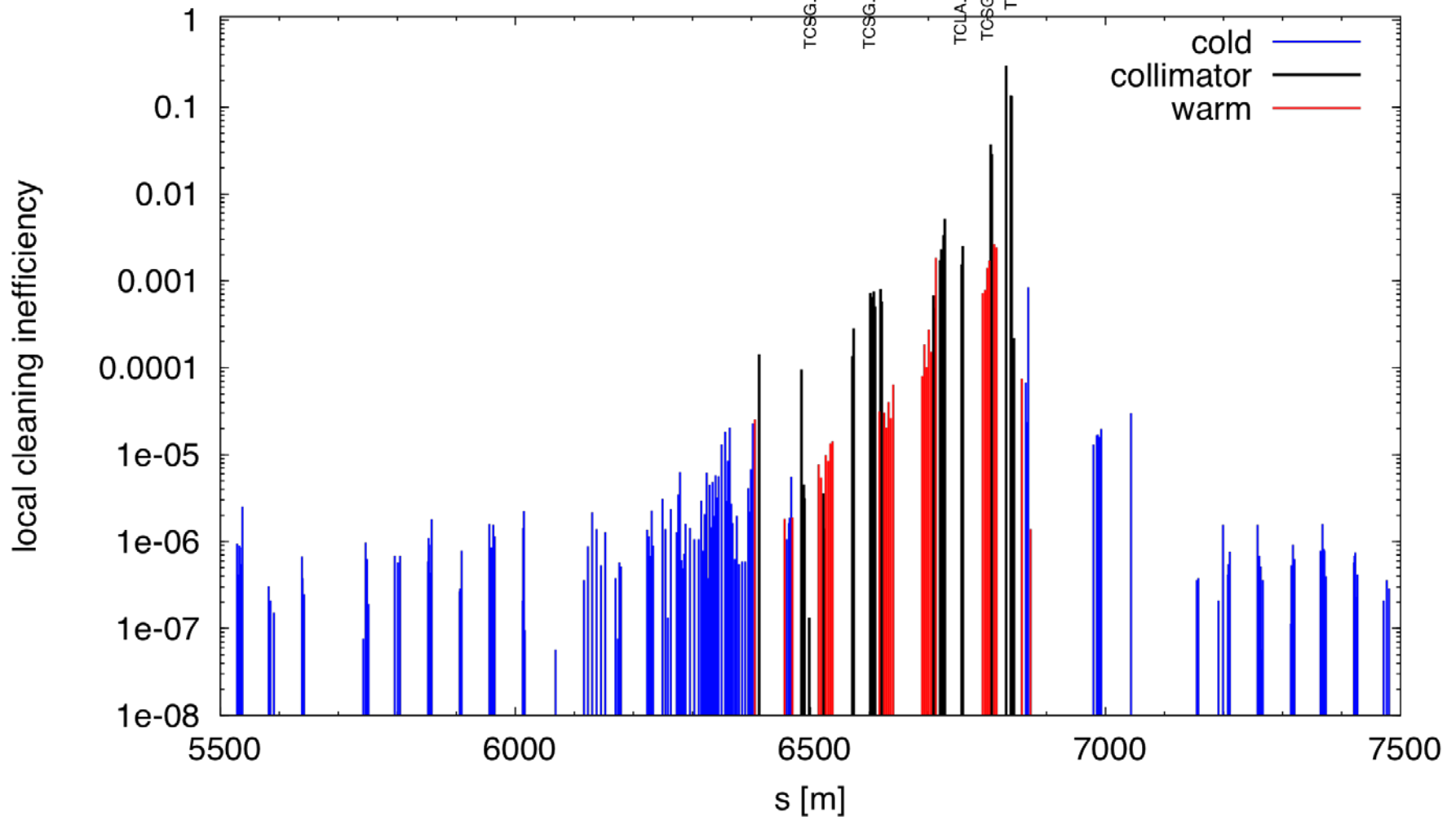




Loss Maps: Physics Conditions

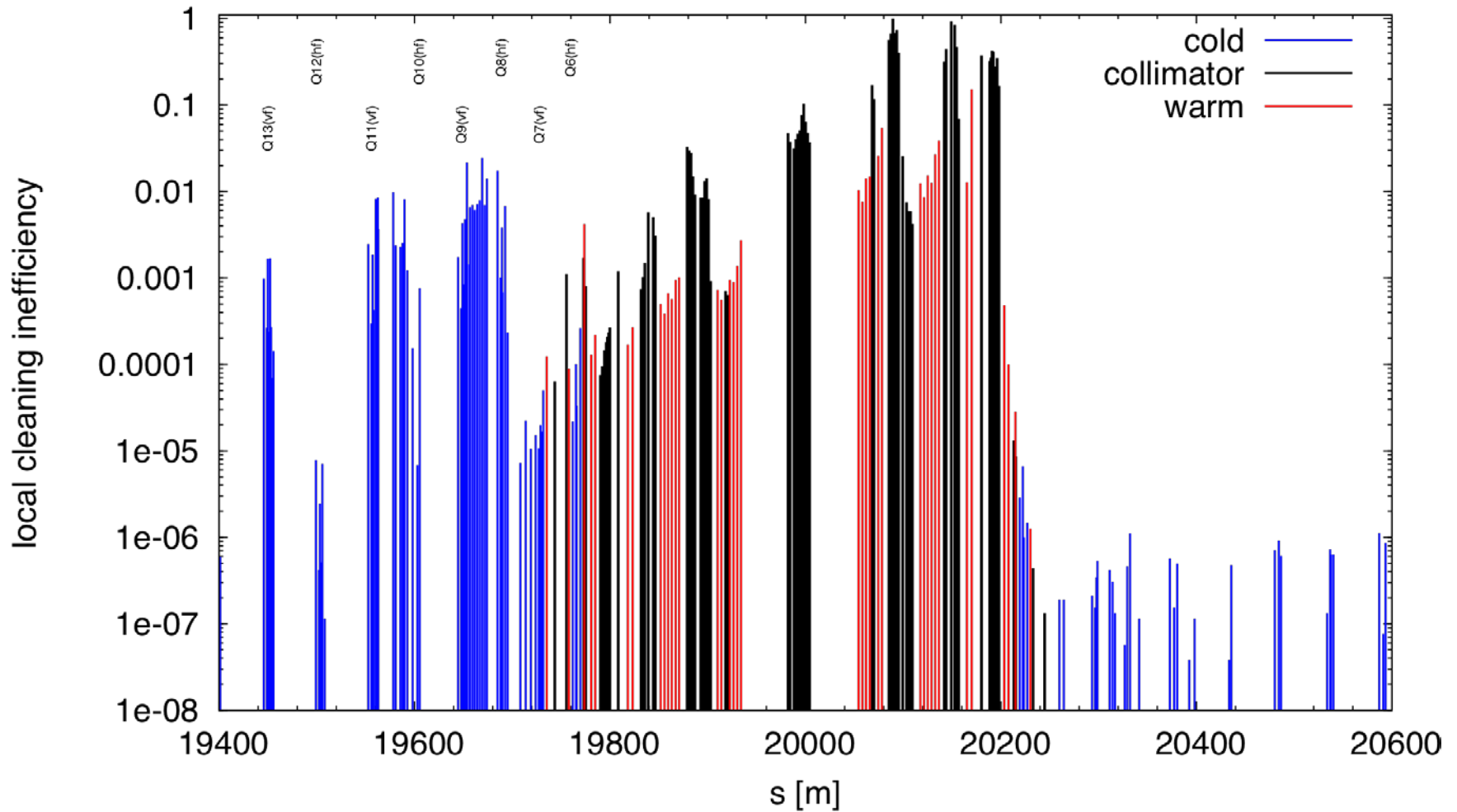


betatron losses B2 3500GeV ver stable beams IR3 (2010.11.07, 22:14:58)

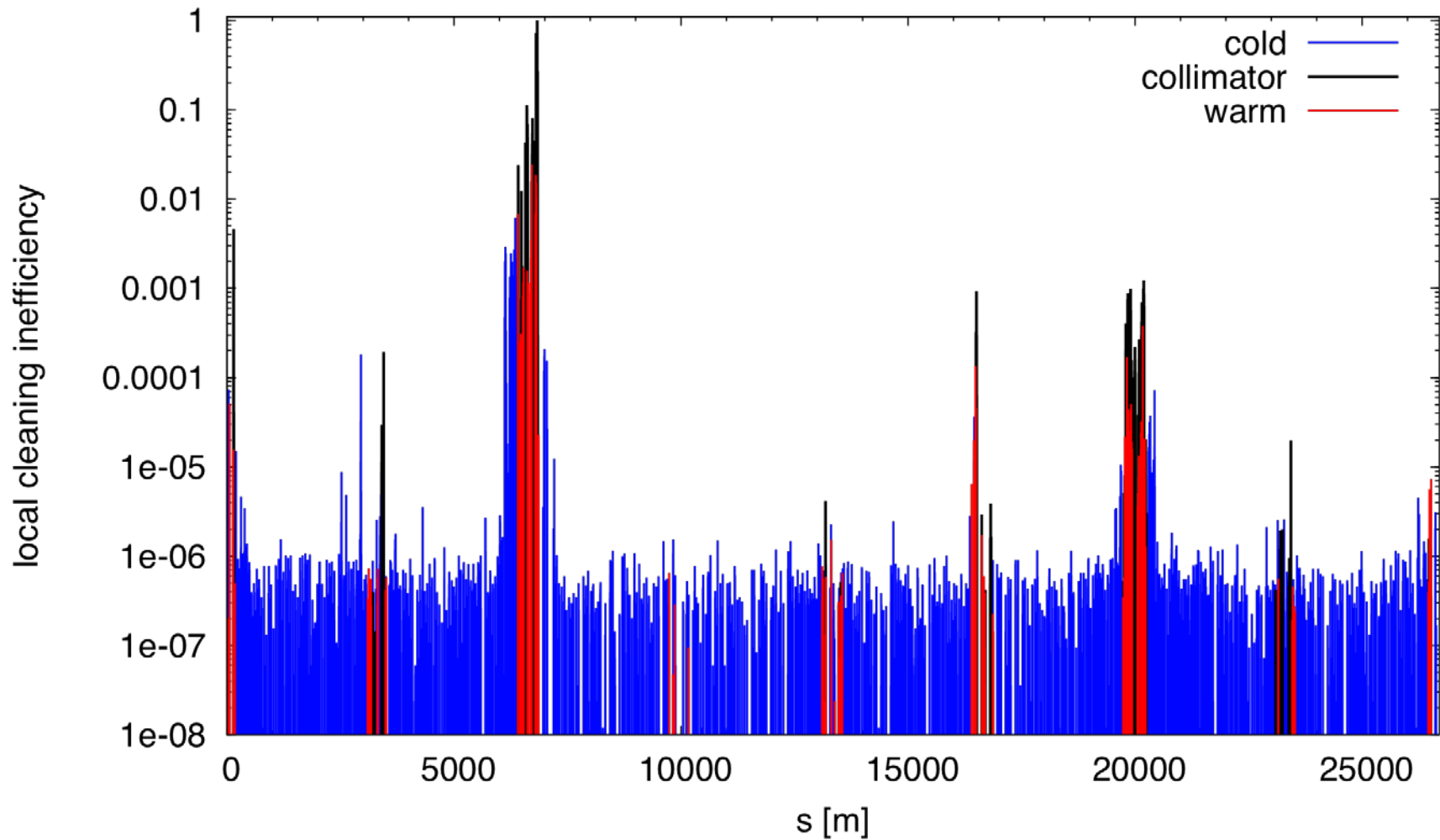


Loss Maps: Physics Conditions

betatron losses B2 3500GeV ver stable beams IR7 (2010.11.07, 22:14:58)

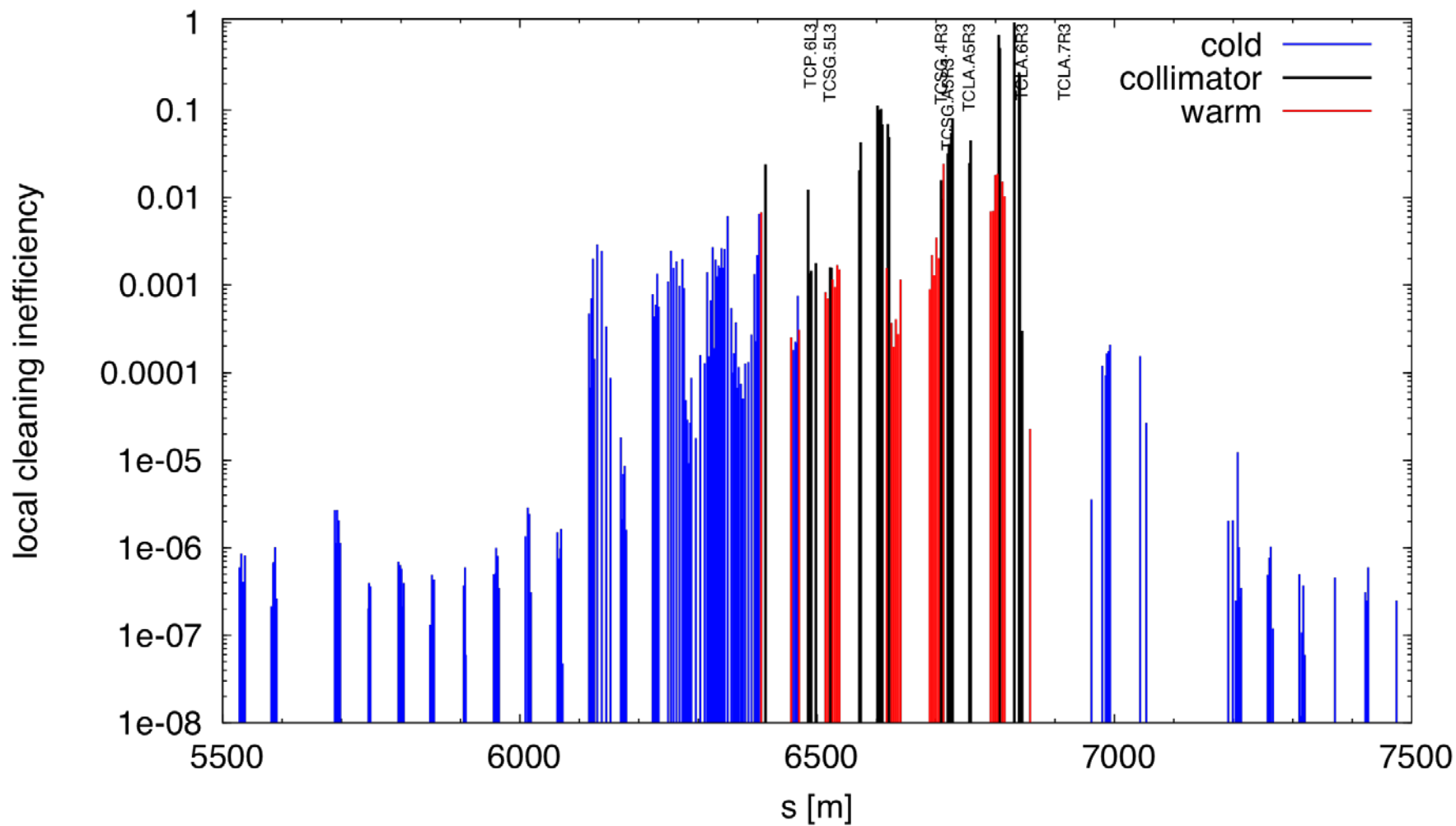


momentum B1 and B2 3500GeV neg offset norm stable beams (2010.11.07, 22:23:17)



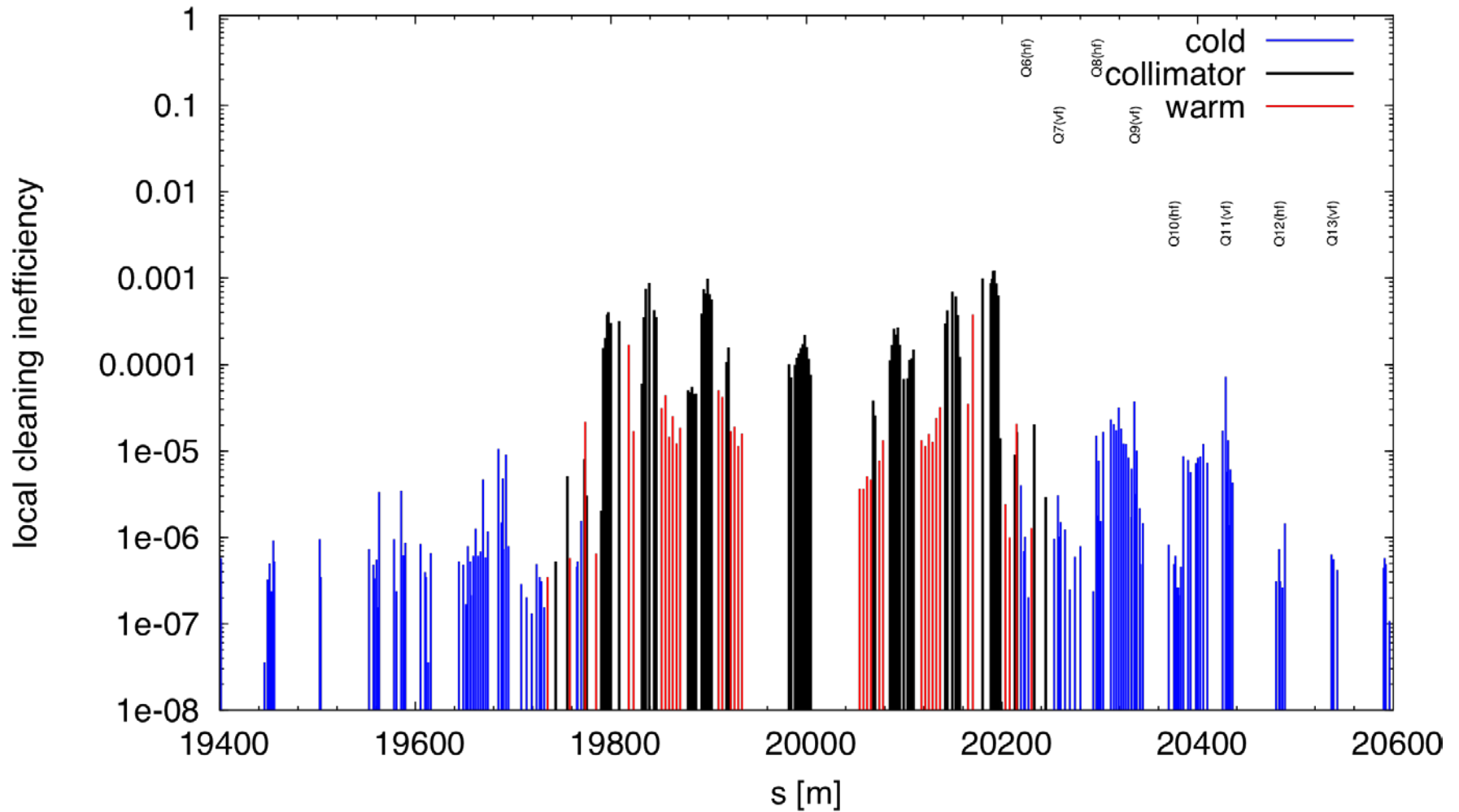
Loss Maps: Physics Conditions

momentum B1 and B2 3500GeV neg offset stable beams IR3 (2010.11.07, 22:23:17)



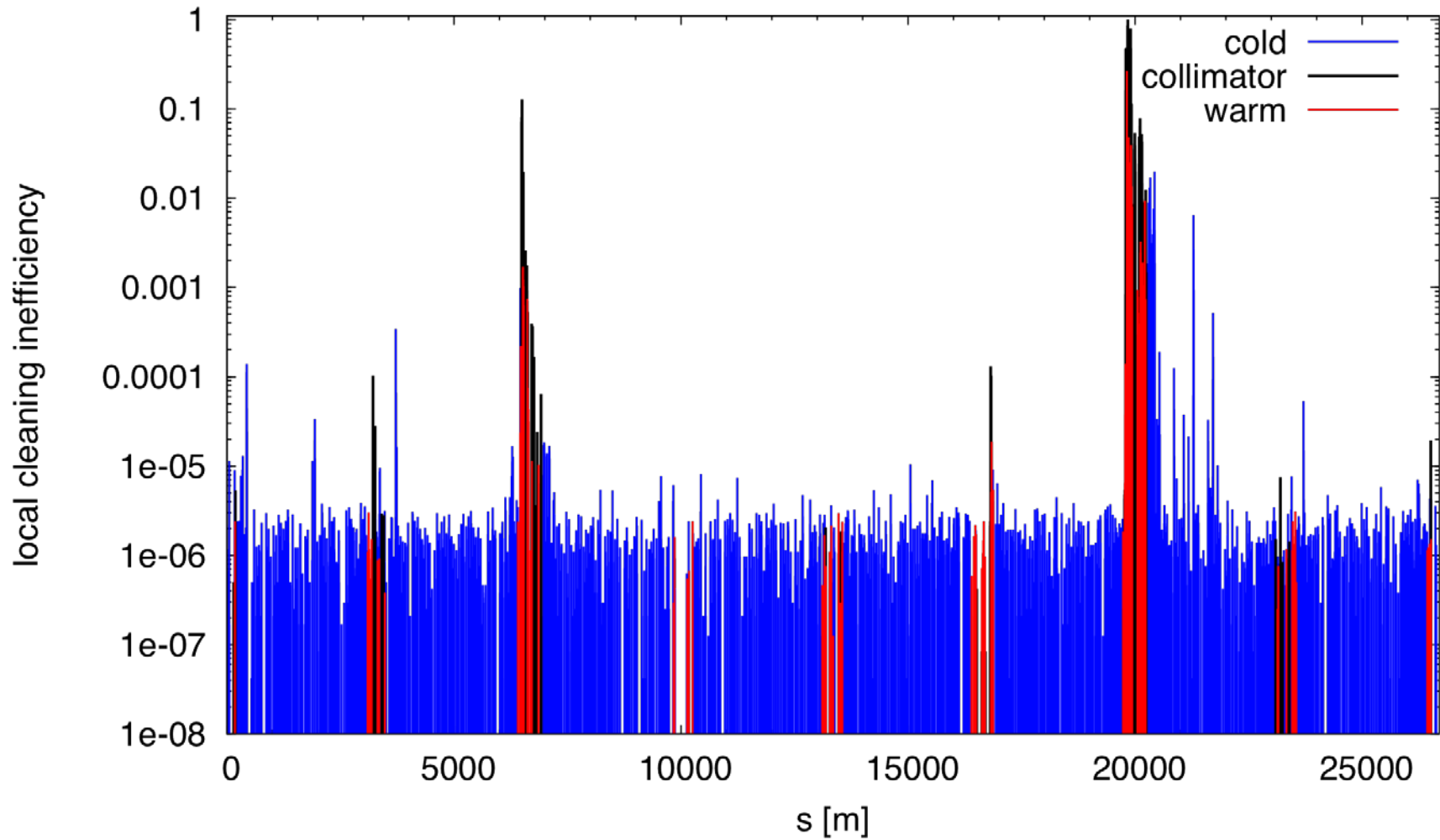
Loss Maps: Physics Conditions

momentum B1 and B2 3500GeV neg offset stable beams IR7 (2010.11.07, 22:23:17)



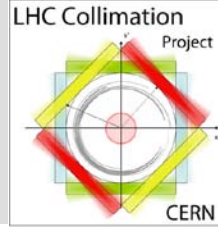
Loss Maps: Physics Conditions

betatron losses B1 3500GeV hor norm stable beams (2010.11.08, 02:47:50)

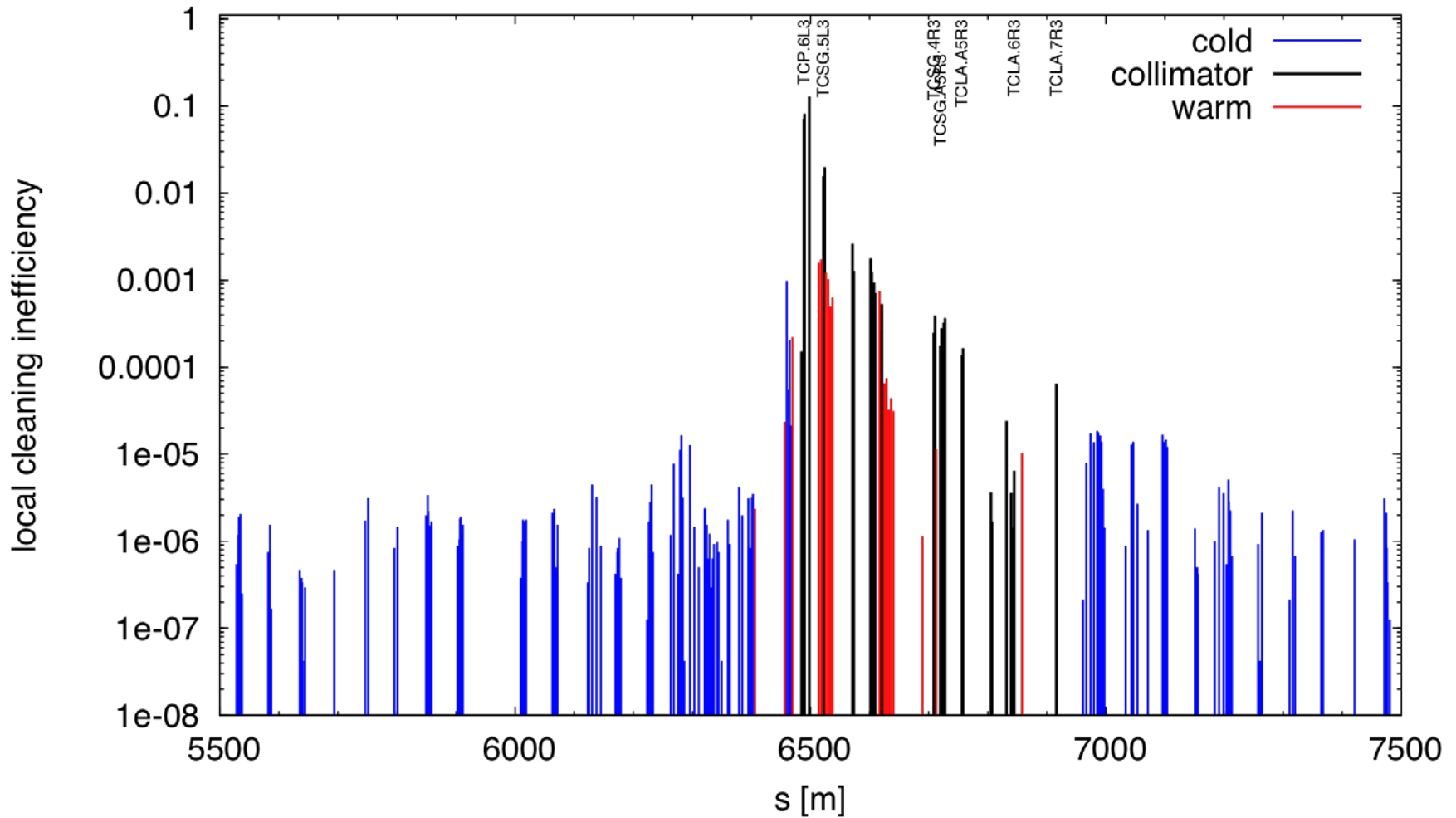




Loss Maps: Physics Conditions

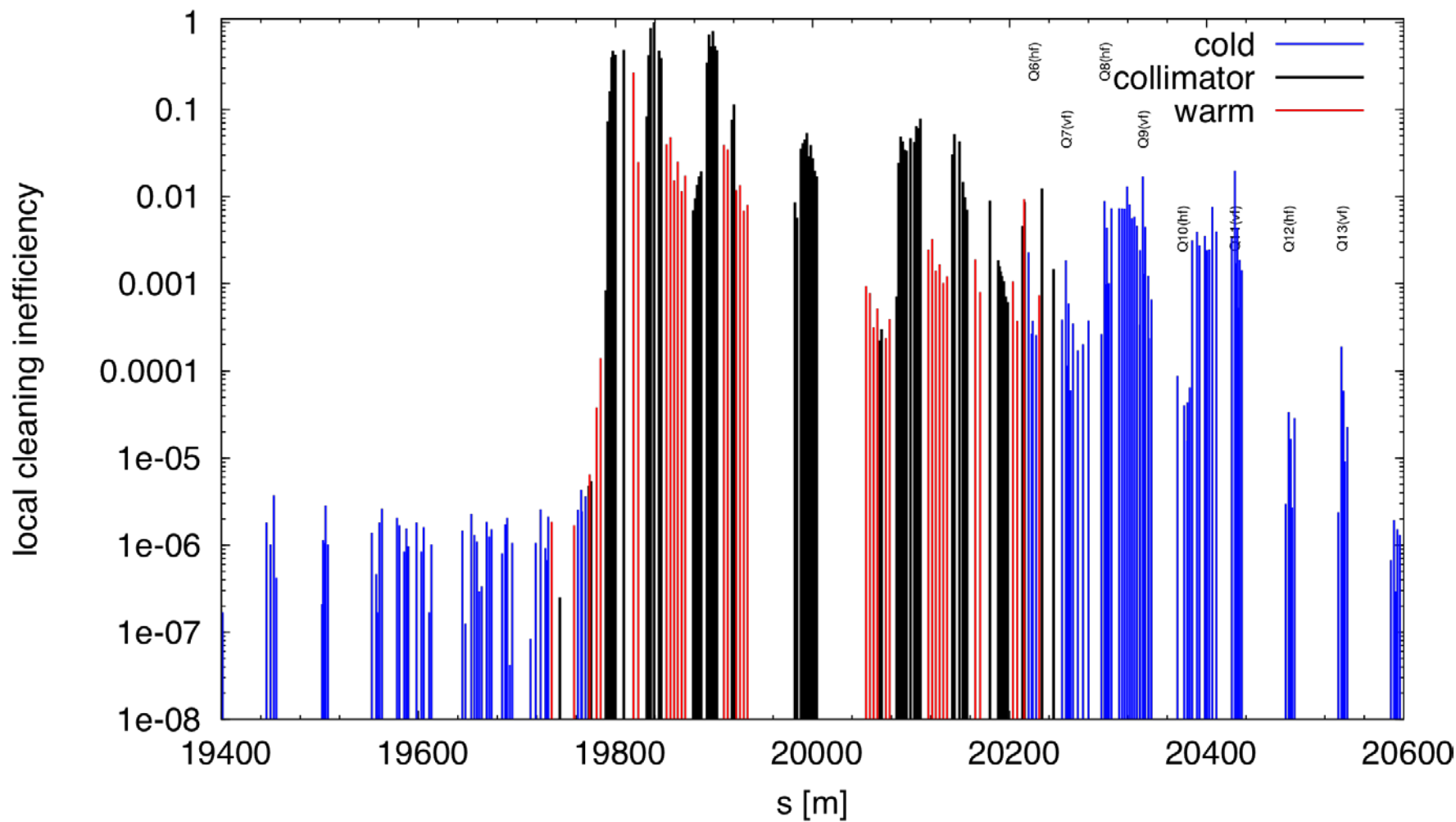


betatron losses B1 3500GeV hor stable beams IR3 (2010.11.08, 02:47:50)



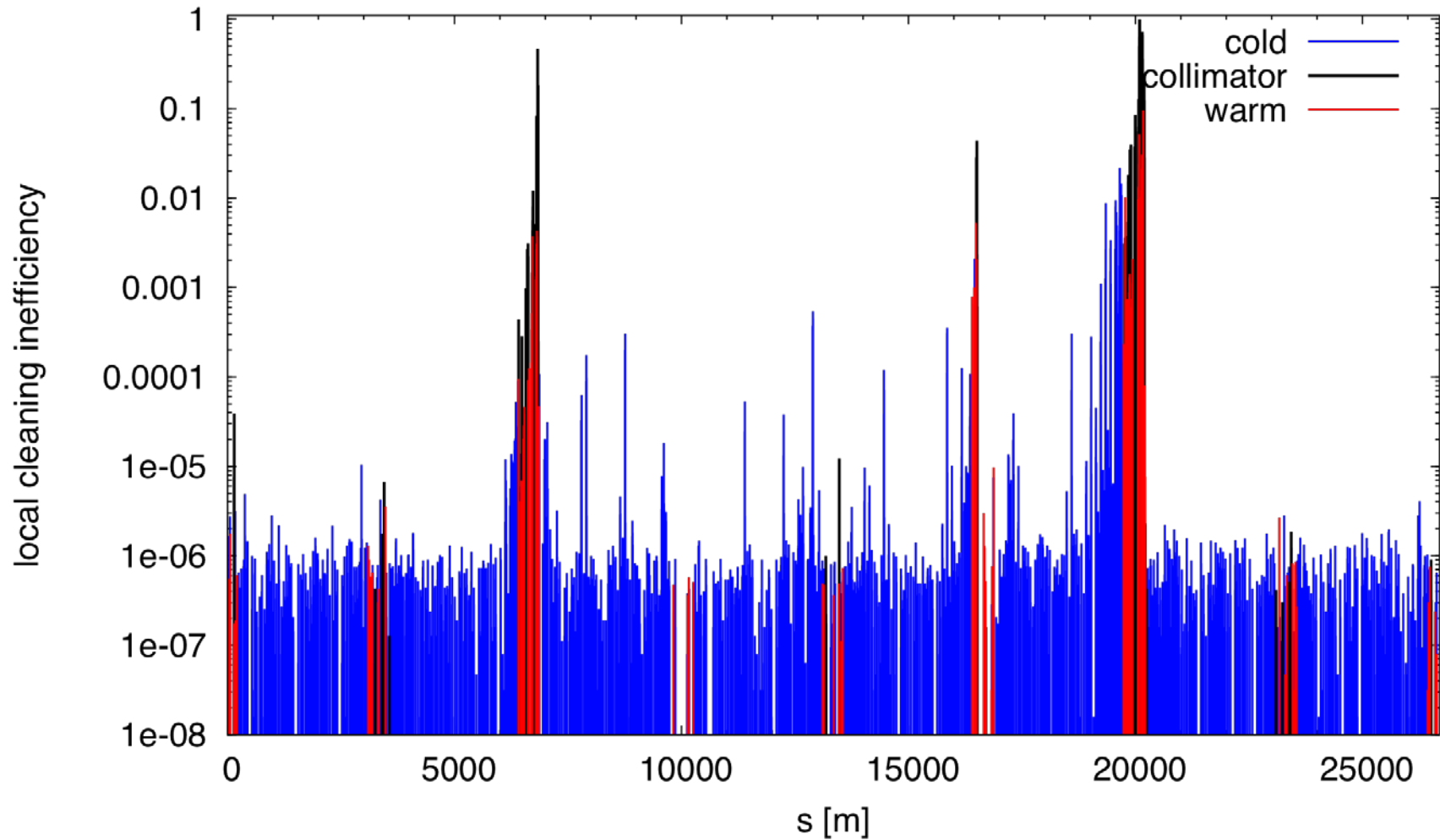
Loss Maps: Physics Conditions

betatron losses B1 3500GeV hor stable beams IR7 (2010.11.08, 02:47:50)



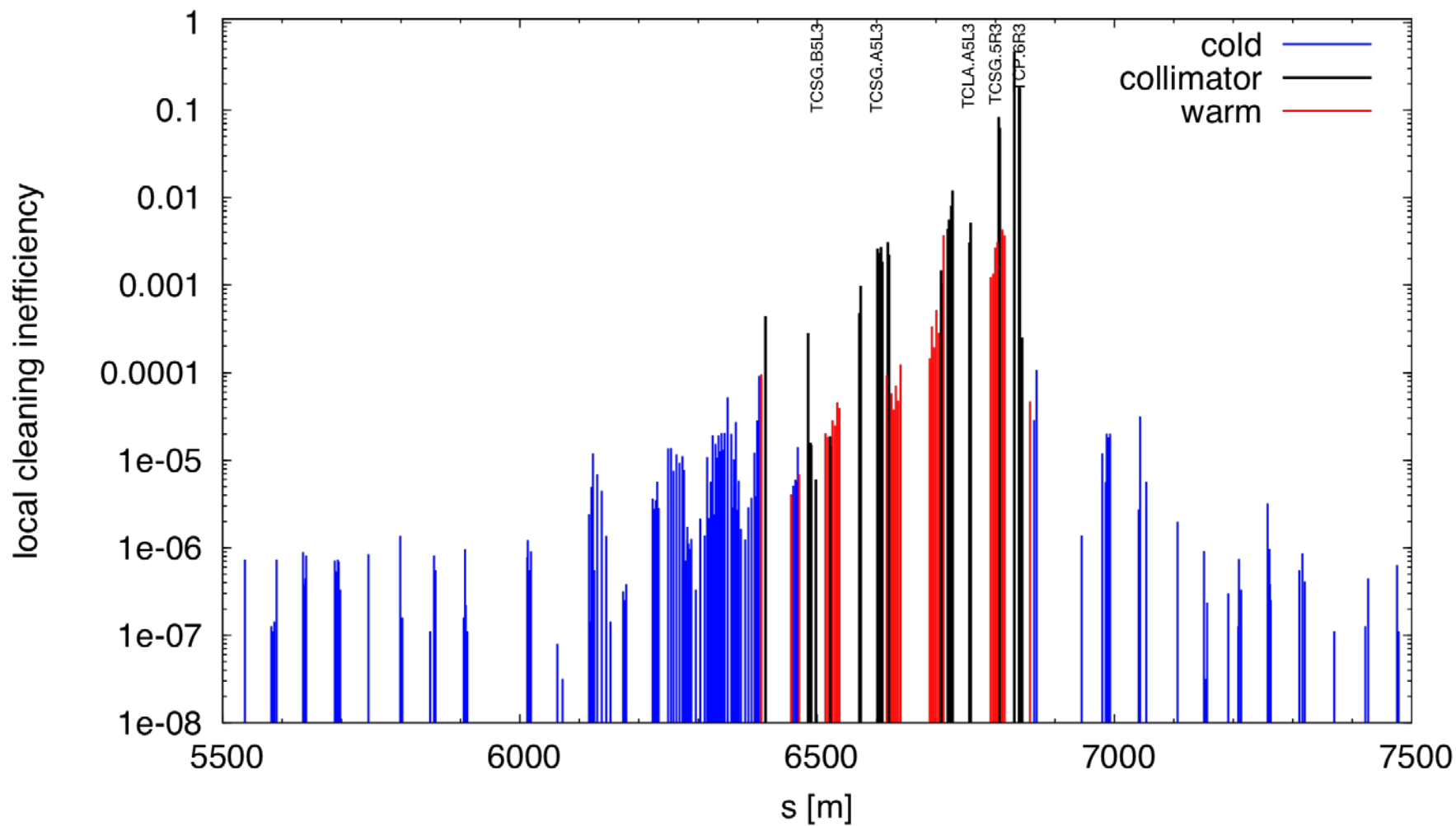
Loss Maps: Physics Conditions

betatron losses B2 3500GeV hor norm stable beams (2010.11.08, 02:49:39)

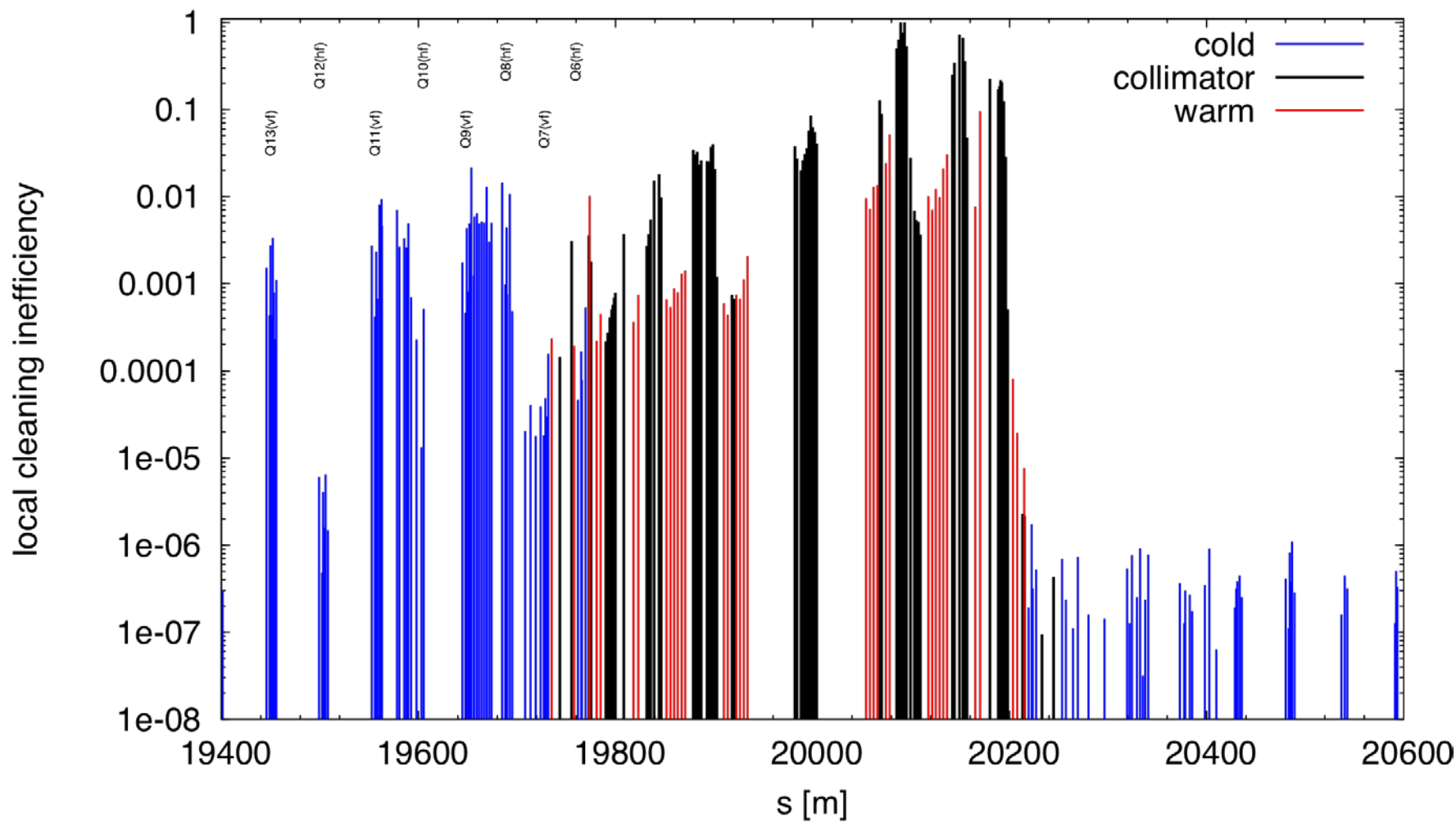


Loss Maps: Physics Conditions

betatron losses B2 3500GeV hor stable beams IR3 (2010.11.08, 02:49:39)

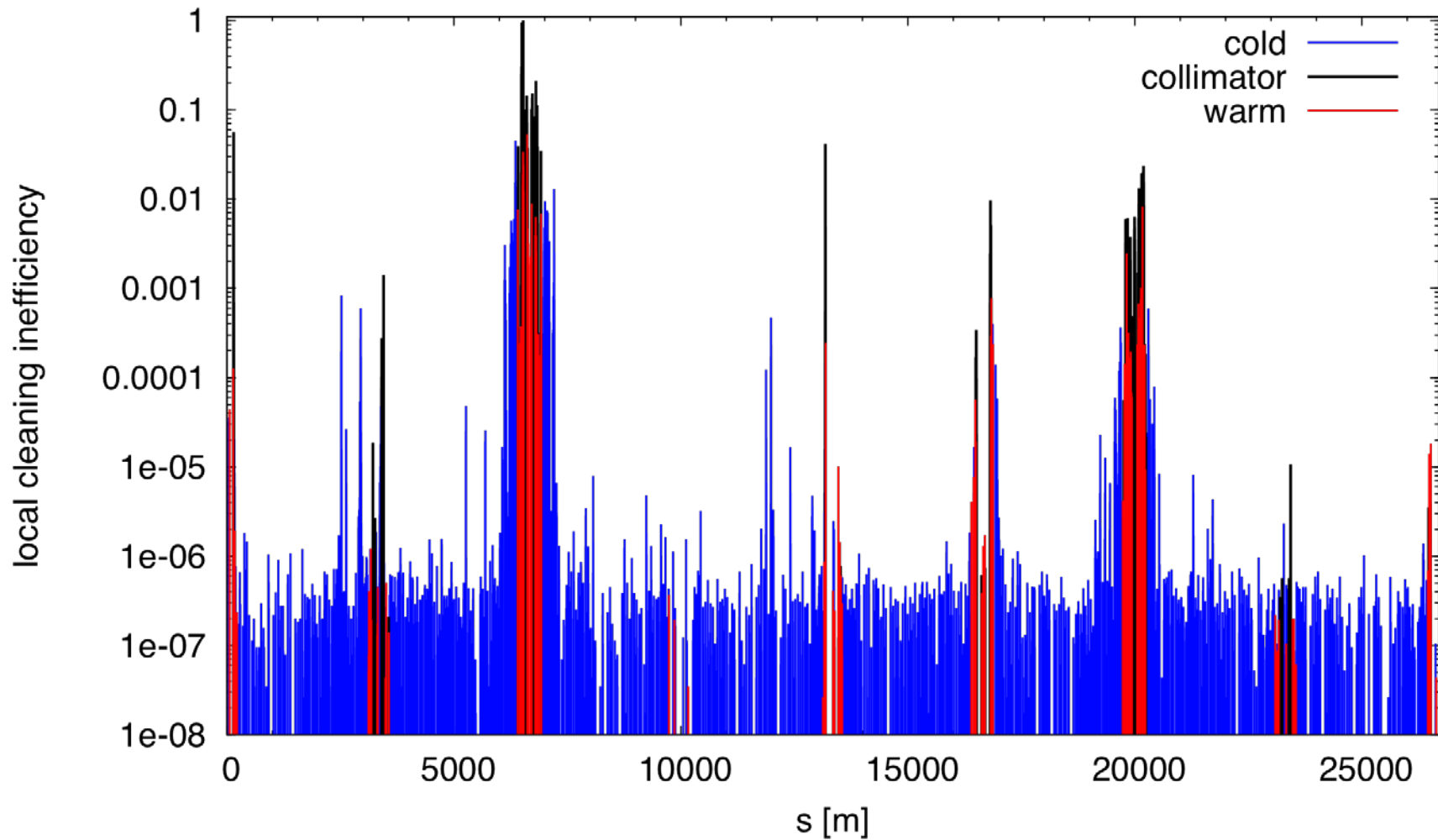


betatron losses B2 3500GeV hor stable beams IR7 (2010.11.08, 02:49:39)



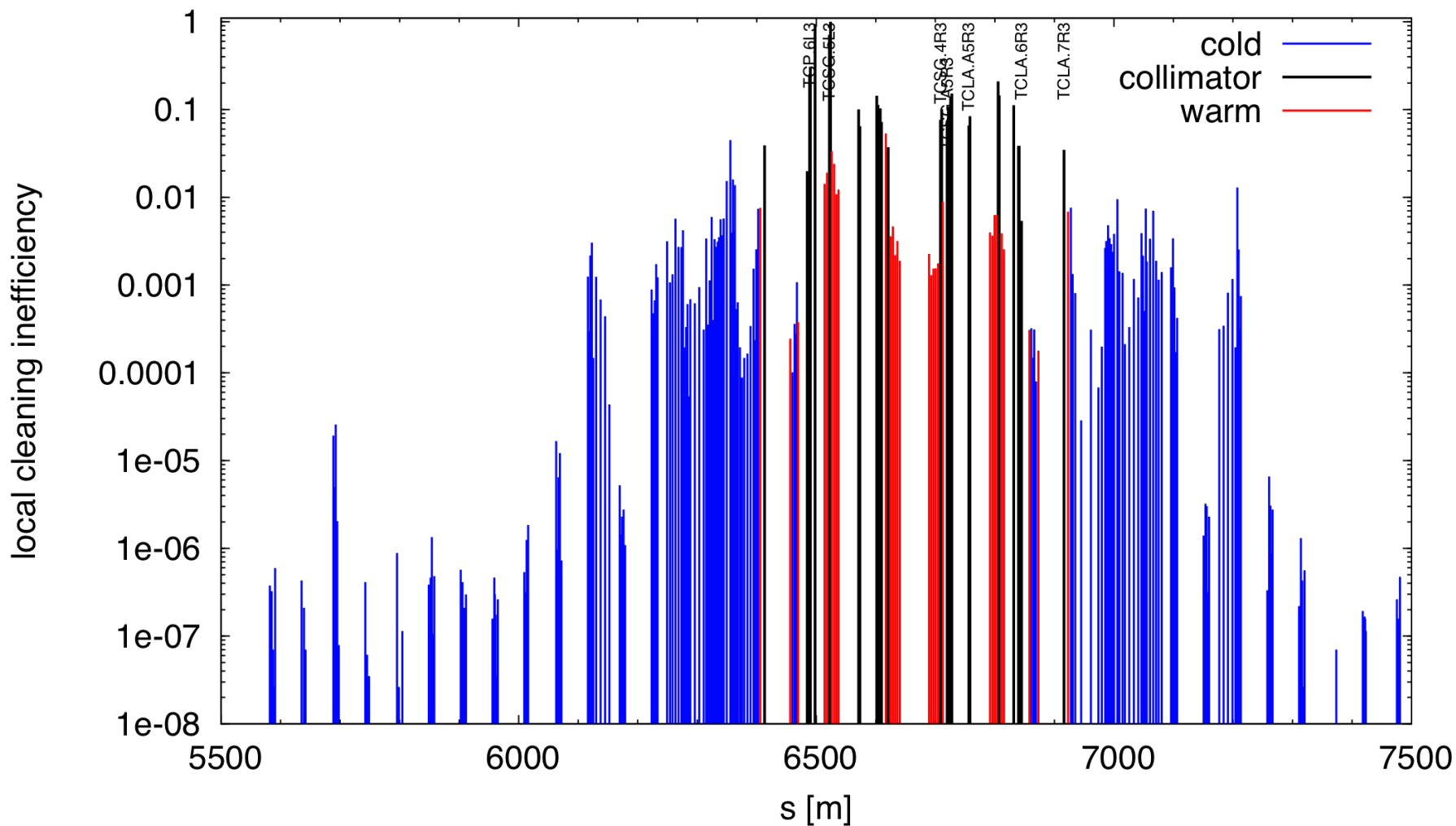
Loss Maps: Physics Conditions

momentum B1 and B2 3500GeV pos offset norm stable beams (2010.11.08, 03:03:27)



Loss Maps: Physics Conditions

momentum B1 and B2 3500GeV pos offset stable beams IR3 (2010.11.08, 03:03:27)



Loss Maps: Physics Conditions

momentum B1 and B2 3500GeV pos offset stable beams IR7 (2010.11.08, 03:03:27)

