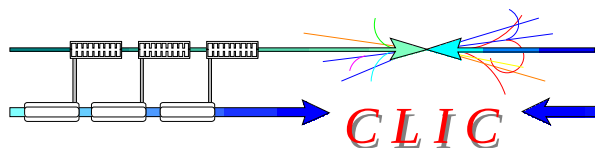


Update of CLIC main linac accelerating structure for 150 MV/m loaded accelerating gradient at 30 GHz

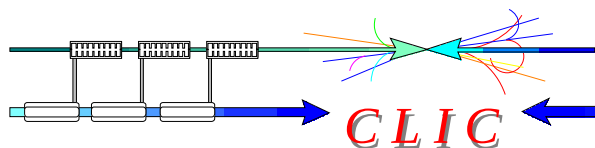
Alexej Grudiev
CERN AB/RF



Motivation for update



Number of analyzed structures is increased
from 217800 to 7605000

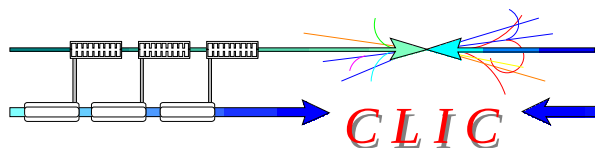


Updated parameter list



Parameters of the best structure at 30 GHz

$\Delta\varphi$ [°]			70
$\langle a/\lambda \rangle$			0.183
$L_{bx}\eta/N$ [a.u.]			14.4
η, η_{Mo} [%]			33.0, 32.2
$L_{bx}[10^{34}/m^2]$			1.22
$N [10^9]$			2.8
a_1, a_2 [mm]			2.14, 1.52
d_1, d_2 [mm]			0.59, 0.37
N_{cells}, l [mm]			112, 218
P_{in} [MW]			160
t_p [ns]			58.3
N_b			212
$N_{cycles}, \Delta t_b$ [ns]			7, 0.233



Updated parameter list



Overall parameters based on this structure and present

$L_1 [10^{34} \text{ cm}^{-2} \text{ s}^{-1}]$			3.9	3.3
$L_{\text{tot}} [10^{34} \text{ cm}^{-2} \text{ s}^{-1}]$			7.8	8
$\sigma_z [\mu\text{m}]$			32	35
$f_{\text{rep}} [\text{Hz}]$			150	100
$P_b [\text{MW}]$			21.4	14.8
$P_{AC} [\text{MW}]$			324	319
$\eta_{\text{tot}} [\%]$			13.2	9.3

