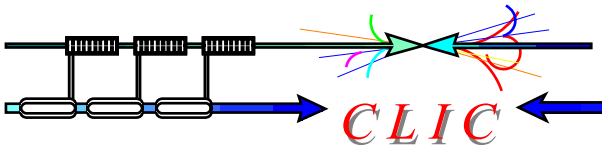

Update of HDS parameters operating at 30 GHz, 110 degree phase advance per cell, and 150 MV/m average loaded accelerating gradient

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Motivation for update

+ Wakefield amplitude from GdfidL

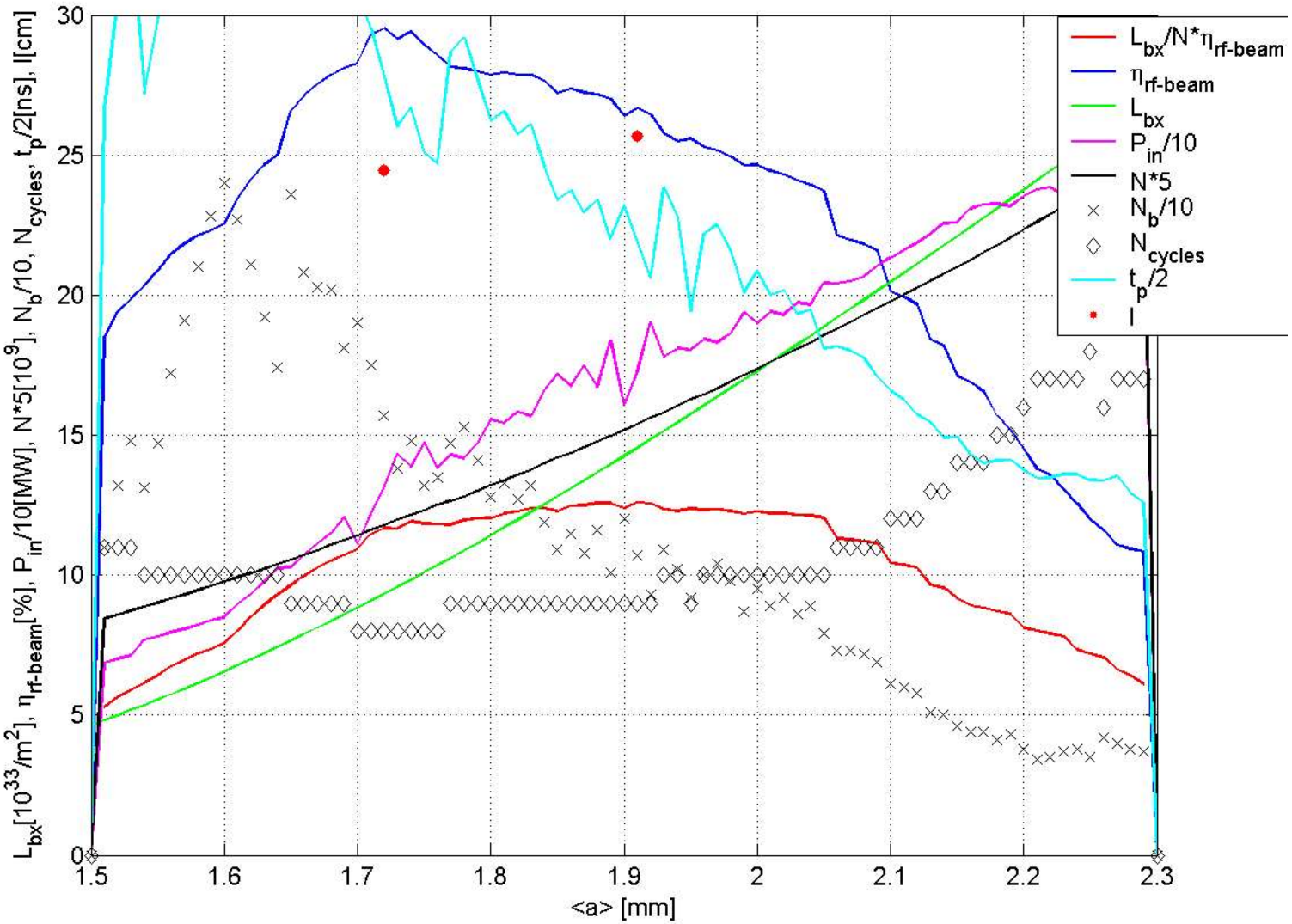
$$A_1 \Rightarrow A_1/2$$

$$e^{\omega^2\sigma^2/c^2} \Rightarrow e^{\omega^2\sigma^2/2c^2}$$

– CuZr instead of Cu in palsed surface heating calculations

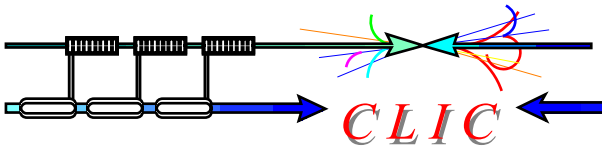
• More accurate Q-factor of the dipole modes (10%->5%)

Updated parameters versus <a>



Updated parameter list

	HDS84 max(L/N*Eff)	HDS80 max(Eff)
$a\,[mm]$	$2.14 \div 1.68$	$1.94 \div 1.5$
$l\ [mm]$	257	244
N_{cycles}	9	8
N_b	107	157
$t_p\ [ns]$	43.8	55.6
$P_{in}\,[MW]$	173	132
N	3.08×10^9	2.36×10^9
$L_{bx}\,[m^{-2}]$	1.45×10^{34}	0.93×10^{34}
$\eta_{rf-beam}[\%]$	26.7	29.5
$L_{bx} / N \times \eta_{rf-beam}[a.u.]$	12.6	11.7



Outlook

- Optimum phase advance from 110 to 150 degree
- Optimum frequency from 30 to 20 GHz
- Optimum gradient - ???