



17TH ADVANCED BEAM DYNAMICS WORKSHOP ON

FUTURE LIGHT SOURCES

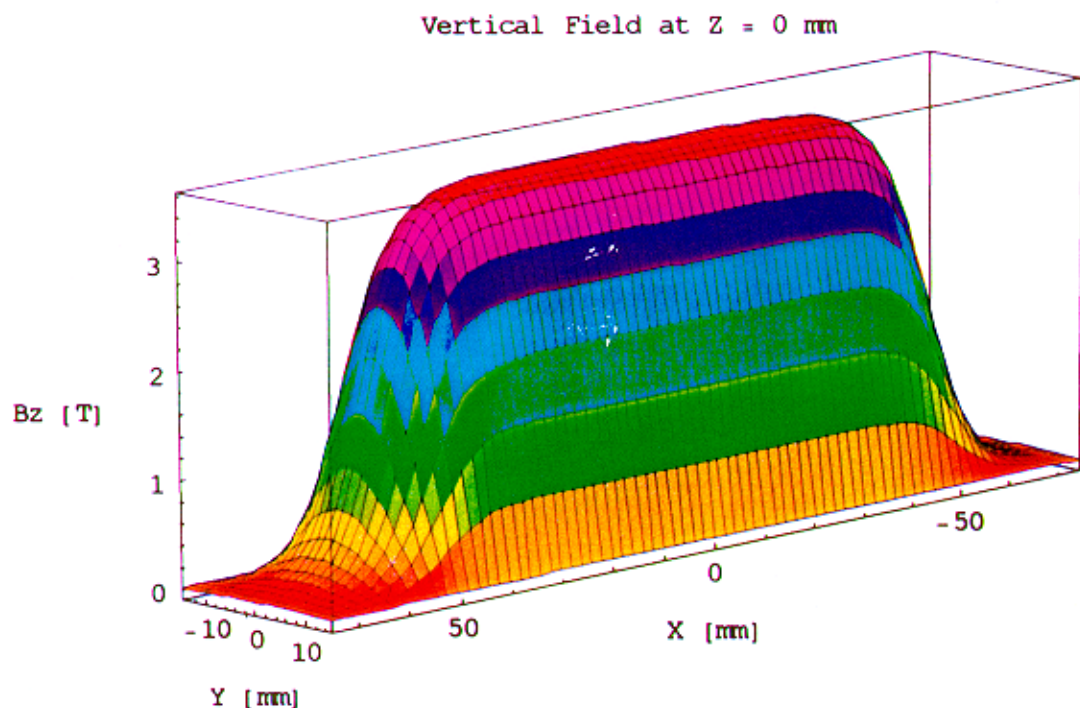
The MAX-Wiggler -- A Cold Bore Superconducting Wiggler with 47 3.5 T Poles

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ARGONNE NATIONAL LABORATORY, ARGONNE, IL U.S.A.

The MAX-Wiggler



**A cold bore superconducting wiggler
with 47 3.5 T poles.**

By

Dr. Erik Wallén

MAX-Laboratory

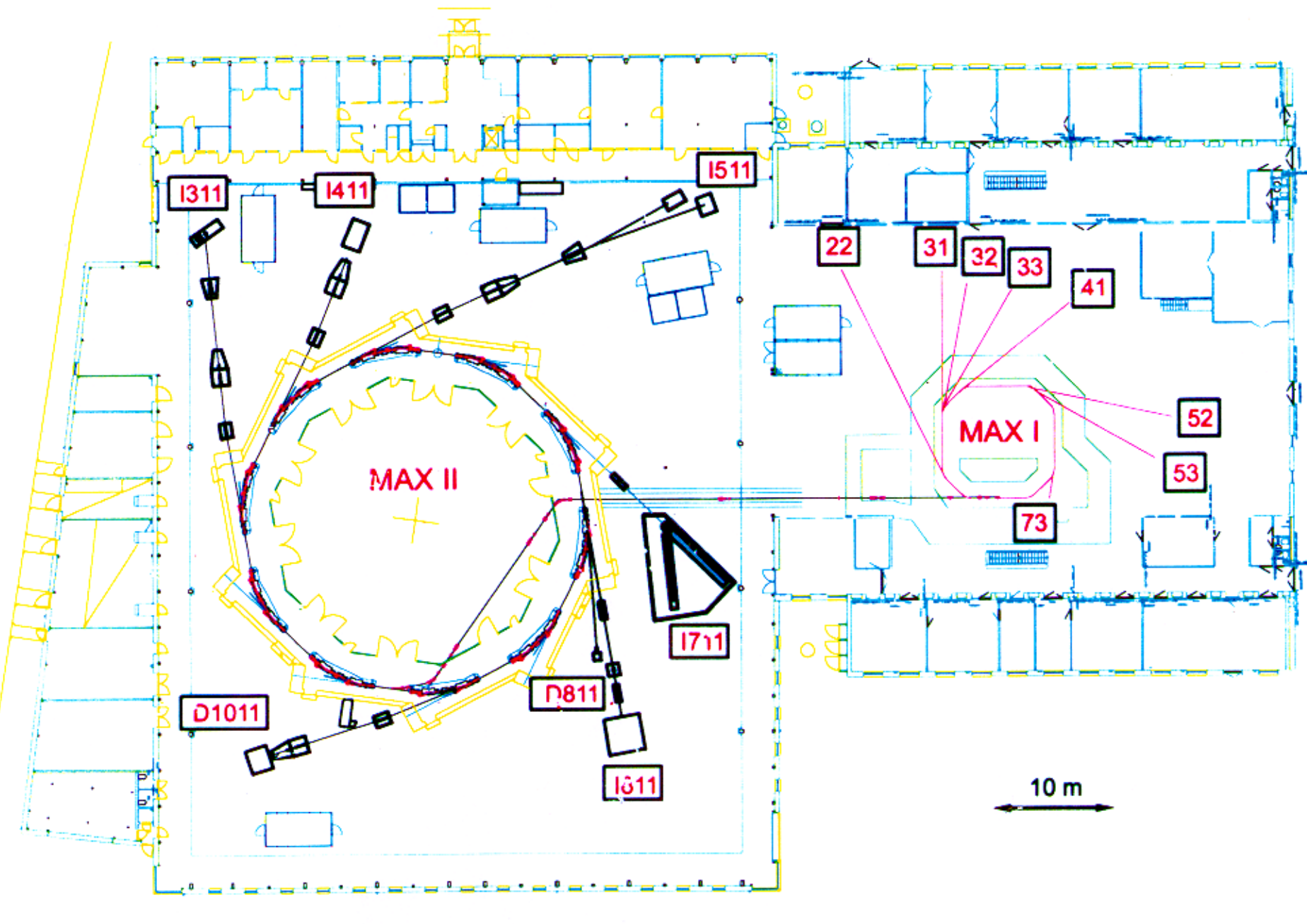
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presented at the FLS workshop at APS, 6. April 1999, by

Prof. Mikael Eriksson

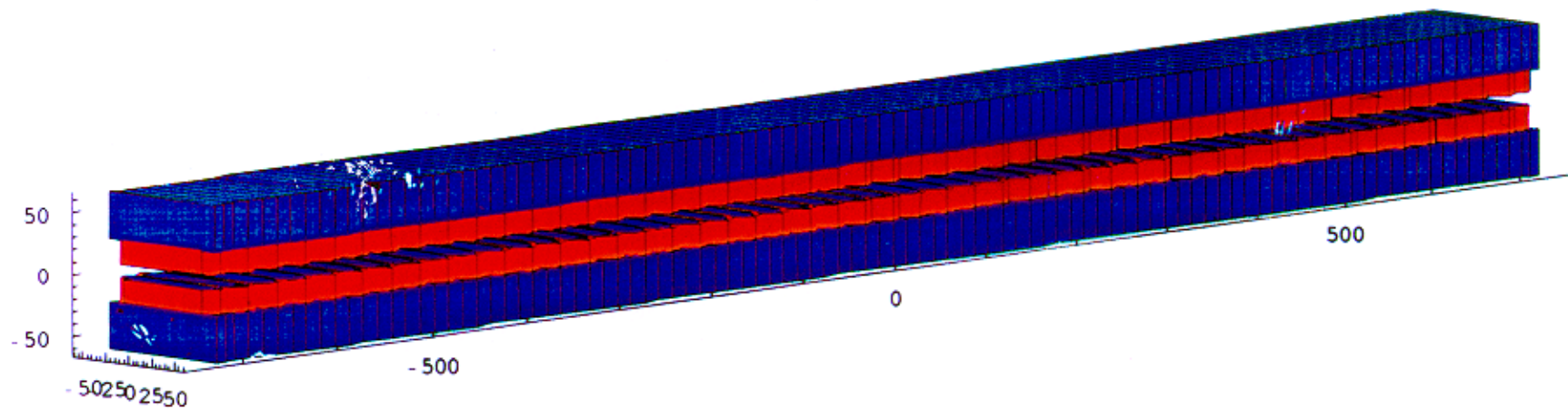
MAX-Laboratory



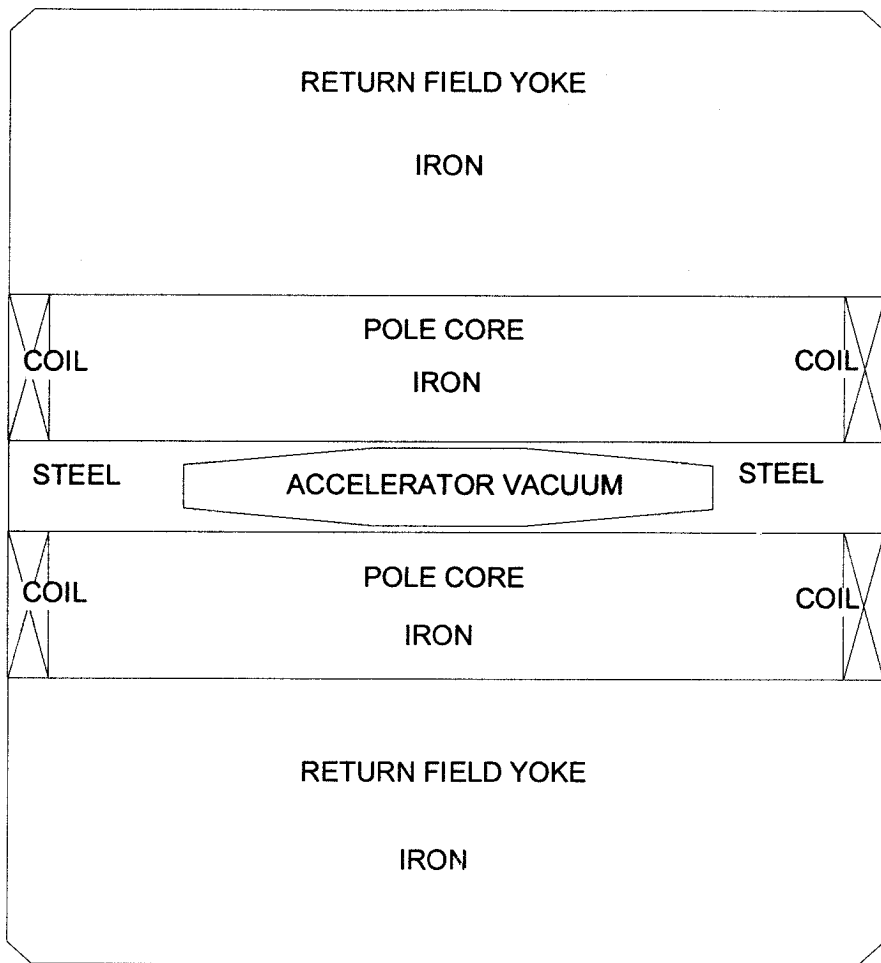
Parameter list of the MAX-Wiggler.

Wiggler period	60 mm
Vertical Aperture	10.2 mm
Horizontal Aperture	70 mm
Total Length of Magnetic Assemblies	1448 mm
Number of Full Size Poles	47
Total Number of Poles	49
Peak Field	3.54 T
Peak Field for End Poles	2.10 T
K, Deflection Parameter	19.7
Total emitted power with 200 mA in MAX II	5.0 kW
Stored magnetic energy	38.4 kJ
1st Field Integral	1.4×10^{-4} Tm
2nd Field Integral	$10.2 \text{ T}^2\text{m}$
3rd Field Integral	$31.7 \text{ T}^3\text{m}$

The MAX-Wiggler



A cold bore superconducting
multipole wiggler with
47 3.5 T poles.



The aperture of the accelerator vacuum tube is
10.2 mm vertically and 70 mm horizontally.