

MAMI Beam Parameters at Low Energies

	Available performance 2013	Extended Performance ⁽¹⁾
$E(\text{MeV})$ ⁽²⁾	180-300	100-300
P_{max} (kW)	18-30	50-150
$I(\text{mA})$	0.1	0.5
f_{bunch} (GHz)	2.5	2.5
$\epsilon_{\text{trans,norm}}$ (mm*mrad)	0.2	< 0.3
ϵ_{long} (keV*psec)	<10	<10
Polarisation	0.85	0.85

⁽¹⁾ : requires 100 MeV extraction/ beamline & exchanging two 50kW Klystrons for 80kW type

⁽²⁾ : 300 MeV is taken as upper limit for „small scale“ experiments

Planned MESA Parameters

	Stage-1 external	Stage-1 internal	Stage-2 external	Stage-2 internal
E(MeV)	150	100	200	100
P_{\max} (kW)	22.5	100	30	1000
I(mA)	0.15	1	0.15	10
f_{bunch} (GHz)	1.3	1.3	1.3	1.3
$\epsilon_{\text{trans,norm}}$ (mm*mrad)	0.2	0.5	0.2	1
ϵ_{long} (keV*psec)	<10	10	<10	15
Pol	0.85	n.a.	0.85	n.a.