THERA Operation Parameters

	low-x configuration	high-Q^2 configuration	
electron beam energy, E_e	250 GeV	500 GeV	800 GeV
proton beam energy, E_p	1 TeV	500 GeV	800 GeV
c.m.s. energy, $\sqrt{s}$	1.0 TeV	1.0 TeV	1.6 TeV
luminosity $[10^{30}\,\mathrm{cm}^{-2}\,\mathrm{s}^{-1}]$	4	25	16
distance focusing magnet – IP	5 m	2 m	2 m
backward electron acceptance	$\theta_e < 179.7^\circ$	$\theta_e < 175^\circ$	$\theta_e < 175^\circ$
forward calorimetric acceptance	$\theta_h > 1^\circ$	$\theta_h > 5^\circ$	$\theta_h > 5^\circ$

Operation parameters of THERA. The first phase with standard beam energies and luminosity will focus on low-x physics. A subsequent, higher-luminosity phase is envisaged which will concentrate on high-Q^2 physics. In this high-Q^2 phase, both arms of TESLA are used for acceleration of electrons to achieve maximum energy. Note that the maximum Q^2 is given by $s = 4E_eE_p$. Choosing $E_e = E_p$ is favourable for maximising the luminosity. An electron energy of 800 GeV energy can be obtained after the TESLA power upgrade, while 500 GeV are available already in the first stage of TESLA.