Electron-Proton Scattering at $\sqrt{s} = 1$ TeV
Report from the THERA Study Group

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The THERA study group was formed in late 1999 to investigate the physics opportunity presented by the high-energy electron-proton interactions which would be made experimentally accessible by colliding the HERA proton beam with the electron beam of the proposed TESLA linear collider at DESY/Hamburg. The center-of-mass energy of 1 TeVextends the energy frontier of the present physics program at HERA, reaching Q^2 values up to 10^6 GeV^2 and x values down to 10^{-6}. This seminar will cover general aspects of the technical feasibility of such an accelerator facility, considerations for a multi-purpose detector, and the resulting contributions to the fields of QCD in inclusive and exclusive processes, heavy flavor physics, physics of the partonic structure of the photon, and to searches for phenomena beyond the Standard Model.