

Abstract Submitted
for the DPP19 Meeting of
The American Physical Society

Overview of the Keda Reconnection eXperiment (KRX) WEIXING DING, JINLIN XIE, QIAOFENG ZHANG, FEIBIN FAN, LONGLONG SANG, QUANMING LU, University of Science and Technology of China — The Keda Reconnection eXperiment(KRX), a large linear magnetized plasma device with two parallel current plates has been designed and is being constructed at University of science and Technology of China for magnetic reconnections. The KRX is 10 meters long and 3 meters in diameter. Plasma with densities up to 10^{13}cm^{-3} is produced by discharge between a 2x2 m² oxide-coated cathode and a grid anode. A pulsed axial magnetic field varying from 10 to 1000 Gauss is generated via 9 sets of magnetic coils to confine the plasma. The two parallel current plates supplied by an edge controllable current source are able to drive plasma reconnections. Furthermore the KRX not only develops multi-dimensional Langmuir probe and magnetic probe but also advanced optical diagnostic systems including Thomson scattering (TS), laser induced fluorescence (LIF) and THz polarimetry-interferometer system for reconnection study. The detail design and construction progress will be presented. The work is supported by Chinese Natural Science Foundation.

Weixing Ding
University of Science and Technology of China

Date submitted: 03 Jul 2019

Electronic form version 1.4