

ILC DR R&D Activities by Institution

17-Aug-07

Alfred U

2.2.3.D	Studies of electron-cloud build-up and instabilities with simulation and experiment	<i>Proposed</i>	<i>17-May-07</i>
2.2.4.E	Studies of fast ion instability (modelling and experimental)	<i>Active</i>	<i>17-May-07</i>

ANL

2.1.1.C	Damping ring lattice design and optimization	<i>Active</i>	<i>17-May-07</i>
2.1.1.G	Alternative ring designs	<i>Proposed</i>	<i>11-Aug-06</i>
2.1.3.B	Orbit and coupling correction and tuning studies	<i>Proposed</i>	<i>17-May-07</i>
2.2.1.F	Single bunch impedance	<i>Proposed</i>	<i>21-Aug-06</i>
2.2.2.E	Multi-bunch instability with Monte Carlo HOM modeling	<i>Proposed</i>	<i>21-Aug-06</i>
2.2.3.S	Model electron cloud instability	<i>Proposed</i>	<i>18-May-07</i>
2.2.5.M	CSR modeling	<i>Proposed</i>	<i>21-Aug-06</i>
2.3.1.A	Integrated modeling of damping ring beam dynamics	<i>Proposed</i>	<i>11-Aug-06</i>
3.7.2.B	Single-pass, high-resolution RF BPM	<i>Proposed</i>	<i>11-Aug-06</i>
3.7.3.A	Development of time-resolved photon diagnostics	<i>Proposed</i>	<i>12-May-07</i>

ASTeC

2.1.4.A	Low-emittance tuning techniques and requirements	<i>Active</i>	<i>17-May-07</i>
2.2.3.N	Benchmarking of electron-cloud build-up simulations	<i>Active</i>	<i>20-Sep-06</i>
2.2.3.O	Improvement of electron-cloud simulation codes	<i>Active</i>	<i>20-Sep-06</i>
2.2.3.P	Predict electron-cloud effect in the damping rings	<i>Active</i>	<i>20-Sep-06</i>
2.2.3.Q	Experimental determination of surface parameters for electron-cloud build-up	<i>Active</i>	<i>20-Sep-06</i>
3.1.1.B	Damping rings vacuum studies	<i>Active</i>	<i>17-May-07</i>
3.1.1.E	Vacuum design of damping rings	<i>Active</i>	<i>20-Sep-06</i>
3.1.1.F	Arcs vacuum system technical design	<i>Active</i>	<i>17-May-07</i>

CERN

2.2.3.N	Benchmarking of electron-cloud build-up simulations	<i>Active</i>	<i>20-Sep-06</i>
2.2.3.O	Improvement of electron-cloud simulation codes	<i>Active</i>	<i>20-Sep-06</i>
2.2.3.P	Predict electron-cloud effect in the damping rings	<i>Active</i>	<i>20-Sep-06</i>
2.2.3.Q	Experimental determination of surface parameters for electron-cloud build-up	<i>Active</i>	<i>20-Sep-06</i>
2.2.3.R	Develop a PIC code for computing electron cloud and ion effects	<i>Active</i>	<i>20-Sep-06</i>
2.2.4.I	Characterize ion effects in the damping rings	<i>Completed</i>	<i>20-Sep-06</i>
2.2.5.L	Theoretical studies of intrabeam scattering	<i>Active</i>	<i>11-Aug-06</i>
3.1.1.E	Vacuum design of damping rings	<i>Active</i>	<i>20-Sep-06</i>
3.4.6.B	Development of superconducting wiggler	<i>Active</i>	<i>11-Aug-06</i>
3.6.1.A	RF cryogenic system specification	<i>Active</i>	<i>17-May-07</i>
3.7.3.C	Instrumentation development	<i>Proposed</i>	<i>11-Aug-06</i>

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Cornell

2.1.1.H	Modelling of alternative injection/extraction techniques - RF deflection schemes and other techniques	<i>Proposed</i>	<i>17-May-07</i>
2.1.4.B	Develop low-emittance tuning strategies with validation in CEsrTA	<i>Active</i>	<i>17-May-07</i>
2.1.4.C	Specify the alignment tolerances and stabilization requirements for the damping rings	<i>Active</i>	<i>17-May-07</i>
2.2.3.D	Studies of electron-cloud build-up and instabilities with simulation and experiment	<i>Proposed</i>	<i>17-May-07</i>
2.2.4.E	Studies of fast ion instability (modelling and experimental)	<i>Active</i>	<i>17-May-07</i>
2.2.5.G	Estimate the impact from CSR	<i>Active</i>	<i>12-May-07</i>
2.2.5.H	Simulation of the Touschek lifetime and intrabeam scattering effects with measurements in CEsrTA	<i>Active</i>	<i>17-May-07</i>
3.4.6.A	Develop physics design for damping wigglers	<i>Inactive</i>	<i>12-May-07</i>
3.4.6.C	Develop engineering design for ILC damping wigglers based on CESR-c superconducting wiggler design	<i>Proposed</i>	<i>17-May-07</i>
3.5.1.C	Development of fast injection/extraction kickers	<i>Active</i>	<i>17-May-07</i>
3.6.2.A	Development of 650 MHz superconducting RF cavity and cryomodule	<i>Proposed</i>	<i>11-Aug-06</i>
3.7.3.B	Develop instrumentation for monitoring emittance damping (including testing and operation in CESR-c and CEsrTA)	<i>Active</i>	<i>17-May-07</i>
3.7.5.A	Develop methodology for fast dispersion measurements (including testing and operation in CESR-c/CEsrTA)	<i>Inactive</i>	<i>12-May-07</i>
4.2.1.D	Development of CEsrTA	<i>Proposed</i>	<i>11-Aug-06</i>
4.2.1.E	ATF instrumentation and hardware development	<i>Active</i>	<i>17-May-07</i>

Daresbury

3.1.1.F	Arcs vacuum system technical design	<i>Active</i>	<i>17-May-07</i>
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DESY

2.1.2.D	Wiggler studies in PETRA-III	<i>Proposed</i>	<i>11-Aug-06</i>
2.2.3.C	Model electron-cloud build-up and instabilities	<i>Proposed</i>	<i>12-May-07</i>
2.2.3.N	Benchmarking of electron-cloud build-up simulations	<i>Active</i>	<i>20-Sep-06</i>
2.2.3.O	Improvement of electron-cloud simulation codes	<i>Active</i>	<i>20-Sep-06</i>
2.2.3.P	Predict electron-cloud effect in the damping rings	<i>Active</i>	<i>20-Sep-06</i>
2.2.3.Q	Experimental determination of surface parameters for electron-cloud build-up	<i>Active</i>	<i>20-Sep-06</i>
2.2.4.D	Studies of fast ion instability	<i>Active</i>	<i>11-Aug-06</i>
3.1.1.E	Vacuum design of damping rings	<i>Active</i>	<i>20-Sep-06</i>
4.2.1.C	Development of HERA-DR	<i>Proposed</i>	<i>11-Aug-06</i>

ILC DR R&D Activities by Institution

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FNAL

2.2.3.T	Model electron cloud dynamics including modelling for CesrTA	<i>Proposed</i>	<i>18-May-07</i>
2.2.5.B	Self-consistent modeling of space-charge effects	<i>Proposed</i>	<i>11-Aug-06</i>
2.2.5.C	Self-consistent modeling of CSR effects	<i>Proposed</i>	<i>12-Apr-06</i>
2.3.1.A	Integrated modeling of damping ring beam dynamics	<i>Proposed</i>	<i>11-Aug-06</i>
3.3.8.B	Damping ring power system design	<i>Proposed</i>	<i>18-May-07</i>
3.5.1.A	Development of high-availability injection/extraction kicker (SLAC/LLNL)	<i>Active</i>	<i>17-May-07</i>
3.5.1.B	Development of high-availability injection/extraction kicker (SLAC/KEK)	<i>Active</i>	<i>18-Aug-06</i>
3.7.2.A	KEK-ATF BPM electronics	<i>Active</i>	<i>17-May-07</i>
4.1.1.A	ATF beam dynamics and instrumentation studies	<i>Active</i>	<i>11-Aug-06</i>

IHEP

2.1.1.F	Damping rings optics design	<i>Inactive</i>	<i>12-May-07</i>
2.2.1.C	Characterize single-bunch collective effects	<i>Proposed</i>	<i>11-Aug-06</i>
3.1.1.D	Vacuum chamber studies	<i>Proposed</i>	<i>11-Aug-06</i>
3.3.2.A	Damping rings magnet design	<i>Proposed</i>	<i>11-Aug-06</i>
3.7.2.C	Damping rings instrumentation	<i>Proposed</i>	<i>11-Aug-06</i>

INFN-LNF

2.1.2.C	Study of beam dynamics with wigglers	<i>Proposed</i>	<i>10-Aug-06</i>
2.2.3.F	Electron cloud lab measurements and PEP-II studies	<i>Active</i>	<i>17-May-07</i>
2.2.3.G	Studies of clearing electrodes for suppressing electron cloud build-up	<i>Proposed</i>	<i>17-May-07</i>
2.2.3.H	Electron cloud studies in DAFNE	<i>Proposed</i>	<i>10-Aug-06</i>
2.2.3.N	Benchmarking of electron-cloud build-up simulations	<i>Active</i>	<i>20-Sep-06</i>
2.2.3.O	Improvement of electron-cloud simulation codes	<i>Active</i>	<i>20-Sep-06</i>
2.2.3.P	Predict electron-cloud effect in the damping rings	<i>Active</i>	<i>20-Sep-06</i>
2.2.3.Q	Experimental determination of surface parameters for electron-cloud build-up	<i>Active</i>	<i>20-Sep-06</i>
3.1.1.E	Vacuum design of damping rings	<i>Active</i>	<i>20-Sep-06</i>
3.5.1.E	Development of stripline electrodes for fast kickers	<i>Proposed</i>	<i>10-Aug-06</i>
3.5.1.F	Laboratory test of FID fast high-power pulser	<i>Active</i>	<i>10-Aug-06</i>
3.6.1.A	RF cryogenic system specification	<i>Active</i>	<i>17-May-07</i>
3.8.1.D	Development of fast feedback systems	<i>Proposed</i>	<i>10-Aug-06</i>

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17-Aug-07

KEK

2.1.2.B	Dynamic aperture studies	<i>Proposed</i>	<i>17-May-07</i>
2.2.3.E	Model electron cloud build-up and instabilities	<i>Active</i>	<i>28-Apr-06</i>
2.2.3.L	Experiments on suppression of electron cloud effect	<i>Proposed</i>	<i>19-Sep-06</i>
2.2.3.M	Measurement of electron cloud instabilities	<i>Proposed</i>	<i>19-Sep-06</i>
2.2.4.C	Studies of fast ion instability	<i>Active</i>	<i>28-Apr-06</i>
2.2.4.H	Measure fast ion instability in KEK-ATF	<i>Active</i>	<i>12-May-07</i>
2.2.5.K	CSR studies at KEK-ATF	<i>Active</i>	<i>11-Aug-06</i>
3.5.1.B	Development of high-availability injection/extraction kicker (SLAC/KEK)	<i>Active</i>	<i>18-Aug-06</i>
3.6.1.B	RF system test in KEKB	<i>Proposed</i>	<i>17-May-07</i>
3.7.2.A	KEK-ATF BPM electronics	<i>Active</i>	<i>17-May-07</i>
3.8.1.E	Bunch-by-bunch feedback systems and related diagnostics systems	<i>Proposed</i>	<i>19-Sep-06</i>
4.1.1.A	ATF beam dynamics and instrumentation studies	<i>Active</i>	<i>11-Aug-06</i>
4.1.1.B	Operation of KEKB LER in a low-emittance mode	<i>Proposed</i>	<i>19-Sep-06</i>
4.1.1.C	Effects of wiggler	<i>Proposed</i>	<i>19-Sep-06</i>
4.2.1.B	Development of fast rise/fall time kicker for ATF/ATF2	<i>Active</i>	<i>11-Aug-06</i>

KNU

2.1.1.E	Damping rings optics design	<i>Proposed</i>	<i>28-Apr-06</i>
2.2.4.C	Studies of fast ion instability	<i>Active</i>	<i>28-Apr-06</i>
4.1.1.A	ATF beam dynamics and instrumentation studies	<i>Active</i>	<i>11-Aug-06</i>

LANL

2.2.3.F	Electron cloud lab measurements and PEP-II studies	<i>Active</i>	<i>17-May-07</i>
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17-Aug-07

LBNL

2.1.1.A	Injection and Extraction Beam Line Design and Characterisation	<i>Active</i>	<i>17-Aug-07</i>
2.1.2.A	Characterize baseline damping rings dynamic aperture	<i>Active</i>	<i>17-Aug-07</i>
2.1.4.D	Low emittance tuning	<i>Proposed</i>	<i>17-Aug-07</i>
2.2.2.C	Characterize the effects of transients during the injection/extraction process on the damped bunches	<i>Active</i>	<i>17-Aug-07</i>
2.2.2.F	Multibunch impedance	<i>Active</i>	<i>17-Aug-07</i>
2.2.3.A	Model electron cloud instability	<i>Active</i>	<i>17-Aug-07</i>
2.2.3.G	Studies of clearing electrodes for suppressing electron cloud build-up	<i>Proposed</i>	<i>17-May-07</i>
2.2.3.I	CesrTA wiggler and electron cloud studies	<i>Proposed</i>	<i>17-May-07</i>
2.2.4.A	Experimental studies of fast ion instability at the LBNL-ALS	<i>Active</i>	<i>17-Aug-07</i>
2.2.5.A	Characterize selected single-bunch instabilities	<i>Active</i>	<i>17-Aug-07</i>
2.2.5.J	Study of CSR effects at KEK-ATF	<i>Proposed</i>	<i>17-May-07</i>
3.1.1.A	Damping rings wiggler and straights vacuum system design	<i>Active</i>	<i>17-Aug-07</i>
3.3.3.A	Damping ring magnet design	<i>Proposed</i>	<i>18-May-07</i>
3.6.4.A	Develop low-level RF systems	<i>Proposed</i>	<i>17-May-07</i>
3.7.5.B	Development of betatron tune monitor and coherent signal receiver	<i>Proposed</i>	<i>17-May-07</i>
3.8.1.A	Development of the transverse broadband multibunch feedback systems	<i>Active</i>	<i>17-Aug-07</i>
3.8.1.B	Characterize injection noise	<i>Proposed</i>	<i>10-Aug-06</i>
3.13.1.A	Mechanical systems design and integration	<i>Active</i>	<i>17-Aug-07</i>
4.2.1.A	ATF kicker development	<i>Active</i>	<i>17-Aug-07</i>

Liverpool/CI

2.1.4.A	Low-emittance tuning techniques and requirements	<i>Active</i>	<i>17-May-07</i>
2.2.1.B	Develop single-bunch impedance models and characterize instabilities	<i>Proposed</i>	<i>17-May-07</i>
2.2.2.A	Impedance-driven coupled-bunch instabilities	<i>Active</i>	<i>17-May-07</i>
2.2.3.F	Electron cloud lab measurements and PEP-II studies	<i>Active</i>	<i>17-May-07</i>
2.2.5.D	Characterize injection/extraction transients	<i>Active</i>	<i>17-May-07</i>
2.2.5.I	Estimate impact of intrabeam scattering on extracted (non-equilibrium) emittances	<i>Proposed</i>	<i>11-Aug-06</i>
2.2.5.J	Study of CSR effects at KEK-ATF	<i>Proposed</i>	<i>17-May-07</i>

LLNL

3.5.1.A	Development of high-availability injection/extraction kicker (SLAC/LLNL)	<i>Active</i>	<i>17-May-07</i>
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Manchester/CI

2.2.1.B Develop single-bunch impedance models and characterize instabilities *Proposed* 17-May-07

Minnesota

2.2.5.H Simulation of the Touschek lifetime and intrabeam scattering effects with measurements in CEsrTA *Active* 17-May-07

RHUL

2.2.5.K CSR studies at KEK-ATF *Active* 11-Aug-06

Rostock

2.2.3.C Model electron-cloud build-up and instabilities *Proposed* 12-May-07

ILC DR R&D Activities by Institution

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SLAC

2.1.2.B	Dynamic aperture studies	<i>Proposed</i>	<i>17-May-07</i>
2.1.3.A	Specify correction systems	<i>Proposed</i>	<i>17-May-07</i>
2.2.1.A	Develop an impedance budget and specify feedback systems	<i>Active</i>	<i>17-May-07</i>
2.2.1.D	Calculate impedance of vacuum chamber components	<i>Proposed</i>	<i>17-May-07</i>
2.2.1.E	Simulate vacuum chamber and beamline components	<i>Proposed</i>	<i>10-Aug-06</i>
2.2.2.D	Fast feedback system specifications	<i>Proposed</i>	<i>17-May-07</i>
2.2.3.B	Model electron-cloud build-up and instabilities	<i>Active</i>	<i>17-May-07</i>
2.2.3.F	Electron cloud lab measurements and PEP-II studies	<i>Active</i>	<i>17-May-07</i>
2.2.3.G	Studies of clearing electrodes for suppressing electron cloud build-up	<i>Proposed</i>	<i>17-May-07</i>
2.2.3.I	CesrTA wiggler and electron cloud studies	<i>Proposed</i>	<i>17-May-07</i>
2.2.3.K	Studies of grooved vacuum chamber surfaces for electron cloud suppression	<i>Active</i>	<i>17-May-07</i>
2.2.4.B	Numerical and analytical studies of two-stream (beam-ion) instabilities	<i>Active</i>	<i>17-May-07</i>
2.2.4.F	Studies of suppression techniques for fast ion instability	<i>Active</i>	<i>17-May-07</i>
2.2.4.G	Experimental studies of fast ion instability	<i>Proposed</i>	<i>12-May-07</i>
2.2.5.E	Characterize classical single- and multi-bunch instabilities	<i>Active</i>	<i>17-May-07</i>
3.1.1.C	Coordinate design of damping ring vacuum system and control the impedance budget	<i>Proposed</i>	<i>17-May-07</i>
3.3.8.A	Damping ring power system design	<i>Proposed</i>	<i>18-May-07</i>
3.5.1.A	Development of high-availability injection/extraction kicker (SLAC/LLNL)	<i>Active</i>	<i>17-May-07</i>
3.5.1.B	Development of high-availability injection/extraction kicker (SLAC/KEK)	<i>Active</i>	<i>18-Aug-06</i>
3.5.1.G	Development of DSRD-based fast high-power pulser	<i>Active</i>	<i>18-Aug-06</i>
3.5.1.H	Development of reduced beam impedance kicker structure	<i>Active</i>	<i>17-May-07</i>
3.6.4.B	Design studies for damping rings low level RF system	<i>Proposed</i>	<i>17-May-07</i>
3.7.2.A	KEK-ATF BPM electronics	<i>Active</i>	<i>17-May-07</i>
3.8.1.C	Fast feedback system development	<i>Proposed</i>	<i>17-May-07</i>
4.1.1.A	ATF beam dynamics and instrumentation studies	<i>Active</i>	<i>11-Aug-06</i>
4.2.1.A	ATF kicker development	<i>Active</i>	<i>17-Aug-07</i>
4.2.1.F	ATF multibunch feedback	<i>Active</i>	<i>25-May-07</i>

UBC

3.5.1.I	Saturating ferrite pulse-sharpener for damping ring kickers	<i>Proposed</i>	<i>18-May-07</i>
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UIUC

3.5.1.D	Development of fast injection/extraction kickers	<i>Active</i>	<i>17-May-07</i>
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YerPhI

3.2.6.A	Optimize design of permanent magnet wiggler	<i>Active</i>	<i>10-Aug-06</i>
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