HIFS VNL representation at the APS DPP meeting in Dallas, Texas

From November 17 – 21, 2008, the American Physical Society Division of Plasma Physics (APS DPP) met in Dallas, Texas. The HIFS VNL was represented by at least 23 papers, including the James Clerk Maxwell Prize Talk on "Collective Interaction Processes and Nonlinear Dynamics of Nonneutral Plasmas and Intense Charged Particle Beams" by HIFS VNL Deputy Director Ron Davidson, and invited talks by Richard More on "A new approach to understanding Warm Dense Matter," and Adam Sefkow on "Simulations and experiments of intense ion beam current density compression in space and time."

The APS DPP papers related to HIF/HEDP with HIFS VNL coauthors are listed below. Abstracts may be found at the APS DPP website:
http://meetings.aps.org/Meeting/DPP08/Content/1228

F.M. Bieniosek, E. Henestroza, M.A. Leitner, S.M. Lidia, B.G. Logan, R.M. More, P.A. Ni, P.A. Seidl, W.L. Waldron, J.J. Barnard, "Ion Beam Driven Warm Dense Matter Experiments"

R.H. Cohen, B.I. Cohen, A. Friedman, D.P. Grote, J.-L. Vay, "Progress with an Implicit Drift-Lorentz mover"

R.C. Davidson, "James Clerk Maxwell, Prize Talk: Collective Interaction Processes and Nonlinear Dynamics of Nonneutral Plasmas and Intense Charged Particle Beam"

M. Dorf, I. Kaganovich, Edward Startsev, Ronald Davidson, "Ion Beam Pulse Propagation through a Neutralizing Background Plasma along a Solenoidal Magnetic Field: Whistler Wave Excitation and Beam Self-focusing"

P.C. Efthimion, E.P. Gilson, R.C. Davidson, B.G. Logan, P.A. Seidl, W. Waldron, "Multi- Meter-Long Plasma Source for Heavy Ion Beam Charge Neutralization"

A. Friedman, D.P. Grote, W.M. Sharp, E. Henestroza, M. Leitner, B.G. Logan. W.L. Waldron, "Toward a physics design for NDCX-II, a next-step platform for ion beam-driven physics studies"

E.P. Gilson, M. Chung, R.C. Davidson, M. Dorf, P.C. Efthimion, R. Majeski, E.A. Startsev, H. Wang, N. Thomas, A. Arora, "Distribution Function Effects on the Stability of Plasmas in the Paul Trap Simulator Experiment"

M. Hay, R.C. Davidson, H. Qin, "Wobbler Dynamics for Heavy Ion Fusion Drivers"

I.D. Kaganovich, M. Dorf, E.A. Startsev, R.C. Davidson, "Designing Neutralized Drift Compression for Focusing of Intense Beam Pulses in a Background Plasma"

S.M. Lidia, A. Anders, R.H. Cohen, J.E. Coleman, M. Dorf, E.P. Gilson, D.P. Grote, J.Y. Jung, M. Leitner, B.G. Logan, P.K. Roy, A.B. Sefkow, P.A. Seidl, W.L. Waldron, D.R. Welch, "Beam Steering, Focusing and Compression for Warm-Dense Matter Experiments"

B.G. Logan, "Scientific objectives and key features of a sequence of heavy-ion-beam-driven facilities for high energy density physics and fusion"

B.C. Lyons, I.D. Kaganovich, "Electron Response to a Charged Particle Beam Propagating through a Warm Background Plasma"

R. More, "A new approach to understanding Warm Dense Matter"

P.A. Ni, F.M. Bieniosek, M. Leitner, W.L. Waldron, "Diagnostics for Heavy Ion Beam Driven Warm Dense Matter Experiments"

O. Polomarov, A. Solodov, R. Betti, I. Kaganovich, G. Shvets, "How the Weibel instability of a beam/plasma system works"

H. Qin, R. Davidson, "Non-Abelian Courant-Snyder Theory for Coupled Transverse Dynamics of Charged Particles in Electromagnetic Focusing Lattices"

P. K. Roy, P. A. Seidl, A. Anders, J.J. Barnard, F.M. Bieniosek, A. Friedman, E. P. Gilson, W. Greenway, A. B. Sefkow, J. Y. Jung, M. Leitner, S. Lidia, B. G. Logan, W. L. Waldron, D. R. Welch, "A thin column of dense plasma for space-charge neutralization of intense ion beams"

A. Sefkow, "Simulations and experiments of intense ion beam current density compression in space and time"

W.M. Sharp, A. Friedman, D.P. Grote, E. Henestroza, M.A. Leitner, W.L. Waldron, "Simulating Acceleration Schedules for NDCX-II"

A. Shnidman, H.E. Mebane, I.D. Kaganovich, R.C. Davidson, "Calculation of charge-changing cross sections of ions or atoms colliding with fast ions using the classical trajectory method"

E. Startsev, M. Dorf, R. Davidson, "Stability of the return-current-two-stream surface mode"

N. Thomas, M. Chung, R.C. Davidson, M. Dorf, P.C. Efthimion, E.P. Gilson, R. Majeski, E.A. Startsev, H. Wang, A. Arora, "Effects of Injection and Confinement Imperfections on Plasma Stability in the Paul Trap Simulator Experiment"

H. Wang, M. Chung, R.C. Davidson, M. Dorf, P.C. Efthimion, E.P. Gilson, R. Majeski, E.A. Startsev, N. Thomas, A. Arora, "Ion Source and Laser-Induced Fluorescence Diagnostic System Development for the Paul Trap Simulator Experiment"