Tom presented an overview of the ECC activity, goals and the present focus on V&V. Verification for the subgroup for fundamental equations would be through the conventional peer reviewed publication process suggested by Taik Soo. This was followed by ten minute presentations on V&V (mostly Verification) by each of the subgroup leaders. The basic contents of these presentations together with the agenda will be posted on ECC website. The final presentation by Dalton Schnack on computational algorithms mainly raised questions of what the charge for this subgroup was. The discussions that followed led to suggestions of issues related to accuracy and efficiency of the algorithms. After the presentations the floor was opened up discussion from all persons attending the meeting.

Issue of V&V for basic equations discussed. What can be appropriate verification for Kinetic equations with arbitrary \( \rho/L \)? They can be tested in standard GK limit for \( \rho/L<1 \) and can also determine how small \( \rho/L \) has to be for validity of standard GK.

Tom: Need for DOE to support verification as necessary and important activity. Not clear how this will be done.

Daren’s suggestion of standards for building a community wide database for future benchmarks well worth the effort.

Tom: Some subgroups (areas) may have more significant progress than others in V&V.

Dalton: A suite of test cases should be identified and as progress is made on algorithms and codes, they will always be benchmarked against the suite of test cases.
Tom: Edge kinetic codes can study neoclassical theory to compare with many theories, and then move into steeper and steeper gradients for edge relevant studies. First we need to define the base for comparison of codes.

Sergei: Simple tests for verification may not help with verification of codes for realistic problems. Test for Monte Carlo case discussed by Daren which place constraints on mesh size would be unfeasible for realistic simulations for ITER.

Maxim: Who gets to decide on test cases?

Tom: General criterion for good verification case is one which is of relevance to experiments.

Rich: Nice physics experiments can also be performed to validate codes.

Phil: There should be a hierarchy of verification tests for especially for new codes. In principle there is no authority to implement this. How can one get to the point where test cases are accepted by community?

Tom: The CYCLONE test cases for the core codes were successfully done and this activity was “pushed” forward by DOE (Curt Bolton)

General feeling that the CYCLONE case was relatively simple. Edge codes very diverse and do not contain same physics.

John (Mandrekas): Should same strategy be adopted for the edge codes? Also verification should be continuous process with new tests for future upgrades of codes.

Sergei: Codes easier to test in linear case. One should identify exact nonlinear solutions (like vortices and coherent structures) to test nonlinear capabilities of edge codes.

OLD BUSINESS

Tom: Any discussion on last meeting minutes?

There was none.

Tom: General consensus the ECC should continue with meeting as part of TTF. Both Rich (Groebner) and Bill (Nevins) very positive after last (05) TTF meeting.

Jim: Should there be a TTF/ECC session on V&V? It is necessary to do so to make more visible the activities of ECC.

Tom: 1/3rd of the members of ECC committee will be rotated off by summer. This issue should be discussed in spring meeting.

Glenn: Need to bring in more experimentalists.

Jim: This needs to be publicized to enroll new members
NEW BUSINESS

Sergei: ECC has its own agenda. Then there is ITER which is very visible. Should ECC play a role in ITER?

Glenn: Parallel activity happening in Europe under the stewardship of Becoulet and Strand. We should work together with them to establish standards and interactions for sharing modules for similar activities.

John (Mandrekas): There is new organization and activity involving burning plasmas with a workshop scheduled for December.

Phil: Lots of repetition. Need for coordination of ITPA, ECC, and Burning Plasma. There are individuals who are common in two or all three of these activities. This new activity (BP) being organized by Erol Oktay

There was general consensus that ECC needs to become more visible. One could have a mini-conference in next APS in which ECC activity is highlighted with focus on V&V.