Dear HHFW enthusiasts:

Below are the Agenda, initial questions and a strawman schedule of goals for our breakout session. This will be posted on the NSTX website. So that we can maximize discussion and so that remote participants can more easily follow the discussion, please send any prepared slides to us ahead of time so that we can post them as well. We do not have enough time for people to make detailed presentations. Let the group see them ahead of time so they will be familiar with them for the discussions. (One viewgraph summaries of ideas or proposals are fine.) View this exercise as a brainstorming session to help us come up with a clearer vision of where we are going. We encourage you to send us in advance any additional questions you would like to see discussed during the workshop.

HHFW Break out Sessions

Agenda

Tuesday 25 June 20002

9:15-12:15

Introduction and Strawman goals and plans	9:15 - 9:25
Discussion of Goals	9:25 - 9:40
Discussion of Experimental Plans	9:40 - 10:15
Break	10:15 - 10:35
Discussion of Technical Plans	10:35 - 10:55
Discussion of Theory and Modeling	10:55 - 11:15
Discussion of Diagnostic Needs	11:15 - 11:35
Summary Discussion	11:35 - 12:15

Status of HHFW Research:

Successful electron heating observed under some conditions:
- Power accounting not complete in all discharges
- Heating with counter CD phasing is more efficient than co

Preliminary evidence of CD observed
- Central MHD strongly suppresses CD effect

H-modes created and sustained with HHFW
- not well characterized

Interaction between NBI ions and HHFW observed

High power operation achieved under strongly constrained conditions
- Low voltage limit observed

Active phase control works well

Ray tracing and full wave code agree for electron damping
- Detailed comparison with experiment not done

Work begun on quantitative modeling of fast ion distribution function with rf

CD models using Ehst-Karney and adjoint model exist
- Need benchmarking
- Need incorporation into TRANSP

Strawman Schedule and Goals

2003	Begin CD experiments with MSE diagnostic
2004/5	Comprehensive evaluation of HHFW as a tool for use in ST (heating, CD and startup)
2005/7	Establish reliable HHFW operation in various ST regimes to control P(R) and J(R)
2008/9	Utilize HHFW in conjunction with other techniques to achieve 5 second operation

Further Questions:

How can we measure the power deposition profile?

Arte there ways to detect edge modes or just rf waves in general?

How do we find all the power?

Do changes need to be made to the antenna or feed system?

What is the best approach for modeling CD?

What is need to make HHFW a routine tool?

Should we consider other heating scenarios?
- Conventional ICRF, LHCD, comparative evaluation vs. HHFW

Should we study direct excitation of Compressional Alfven eigenmodes via the HHFW antennas?