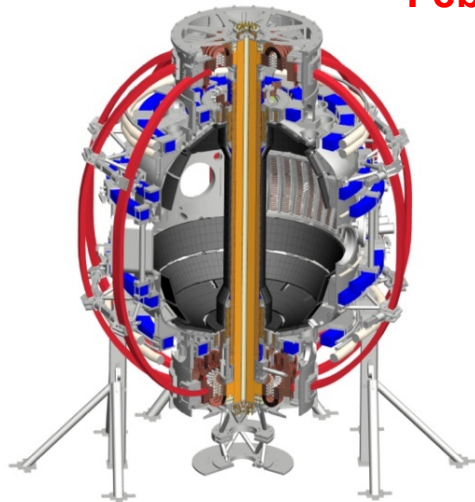


Impact of PAC-33 Review on Waves and Energetic Particles TSG 5-Year Research Plans

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TSG Discussion of PAC-33 Recommendations
Director's Conference Room
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Chapter 6 - EP

What went well?

- PAC supported plans on AE instabilities and fast ion transport
- PAC emphasized excellent collaboration with theory for model/code development, verification and validation

What could be improved?

- PAC suggested more aggressive integration of “real-time” AE mode control tools and algorithms with PCS:
 - Requires development of reduced models for “real-time” AE stability predictions and decision-making algorithms for PCS

Impact on chapter text and 5-year plan presentation?

- More clarity regarding achievable goals and plans for mode control
- Real-time mode control in 5 years seems unlikely with present budget but some ideas can be tested, at least in open-loop
- Add paragraph(s) on longer-term development of real-time mode control:
 - For example AE mode detection, q-profile/rotation control, 3D fields in response to AE activity, and possibly antenna(s) *[pending incremental funding]*

Chapter 7 - RF

What went well?

- PAC generally endorsed the RF research plan as presented

What could be improved?

- Need better connection between research plan and theory/modeling
- Include FW heating as a tool for physics studies, including rotation studies, and perhaps impurity control
- Install grooved tile on the center stack (aka MAST EBW) to support EBW startup when 28 GHz heating system becomes available
- Assess effect of 3-D fields on FW coupling
- Ensure combination of FW and NBI is tested/assessed in first 1-2 years of NSTX-U operation

Impact on chapter text and 5-year plan presentation?

- Include/emphasize above improvements in text and presentation:
 - Propose installing grooved tile on center stack during FY2016-17 opening