

ALICE ITS Upgrade and O² Asian Workshop 2014 @ THAILAND



Centara Anda Dhevi Resort and Spa, Krabi, Thailand

JUNE 16-18, 2014



Overview of activities in Thailand

Chinorat Kobdaj
16 June 2014



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Suranaree University of Technology

Her Royal Highness Princess Maha



18 May 2000 DELPHI



9 Dec 2003 RSIS: Role of
Science and Technology



16 March 2009 CMS
Detector, LHC



13th April 2010 LHC
Briefing



25th December 2009 The Thai-CERN subcommittee delegates from universities and related research org has been appointed and chaired by Prof. Pairash Th



National Science and Technology
Development

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Photo taken at Sra Patum Palace on December 13, 20



ALICE-THAI COLLABORATION

Physics
SUT 


SENSOR
DEVELOPMENT


TMEC
Thai Microelectronics Center

SENSOR
CHARACTERIZATION
SLRI 



ALICE

GRID
OPERATION
NECTEC 
a member of NSTDA

Computing
KMUTT 



Thailand participates in ITS upgrade as a consortium effort



Suranaree University of Technology (SUT)

- Geometry of the beam pipe and the inner barrel of ITS
- Physics Analysis of HyperNuclei and Λ_c
- Tier 2 GRID site



Thailand National Electronics and Computer Technology Center (NECTEC)

- GRID Operation



King Mongkut's University of Technology Thonburi (KMUTT)

- Online-Offline operation (O^2)



◎ Thai Microelectronics Center (TMEC)

- High resistivity wafer
- Dummy chip
- Silicon Micro-channel cooling
- Thinning and laser dicing



◎ Synchrotron Light Research Institute (SLRI)

- Characterization of prototype pixel chips using 1 GeV electron beam



SUT contributions on ITS Upgrade



- ◎ Suranaree University of Technology (SUT)
 - Geometry of the beam pipe (Mr. Navadecho Chankhunthod)
 - Geometry of the inner barrel of ITS (Mr. Wanchaloem Poonsawat)
 - **Geometry of the service barrel (Mr. Parinya Namwongsa)**
 - Physics analysis of hyperNuclei (Mr. Natthapon Somparn)
 - Physics analysis of Λ_c (Mr. Wanchaloem Poonsawat)



Creating the Geometry of Service Barrel

Parinya Namwongsa, Wanchalerm Poonsawat and Chinorat Kobdaj

Suranaree University of Technology, Thailand

June 16, 2014

ALICE ITS Upgrade and C2 Asian Workshop 2014@THAILAND, June 16-18, 2014., Centara Anda Dhevi Resort and Spa, Krabi, Thailand

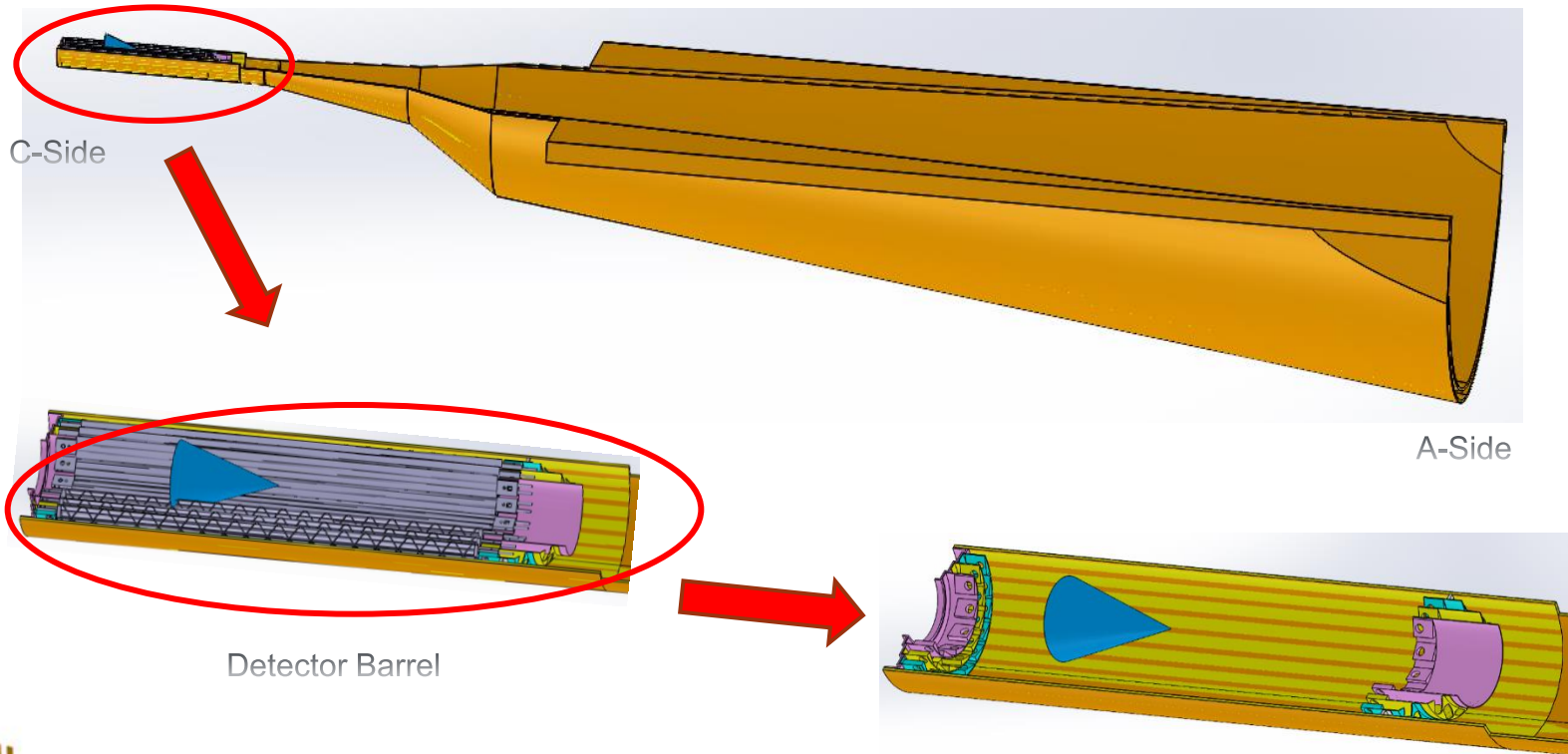
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Service Barrel of Inner Barrel (IB)



Received from : Corrado Gargiulo on Mar 12, 2014
Files from : R14_20140311_ALI

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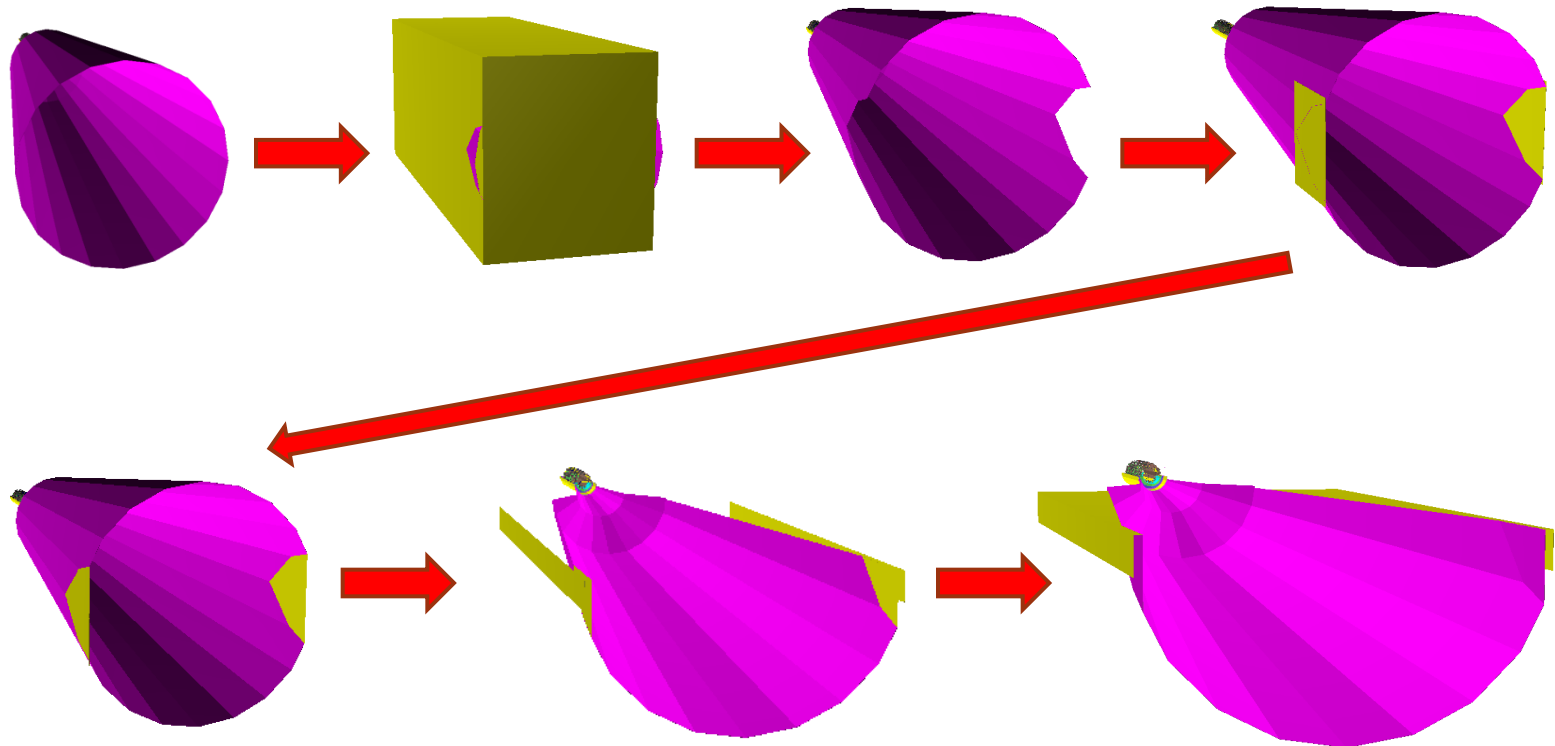




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Coding

Files name : *AliITSUv1Layer.{cxx, h}*



Class name : *AliITSUv1Layer::CreateServiceBarrel()*

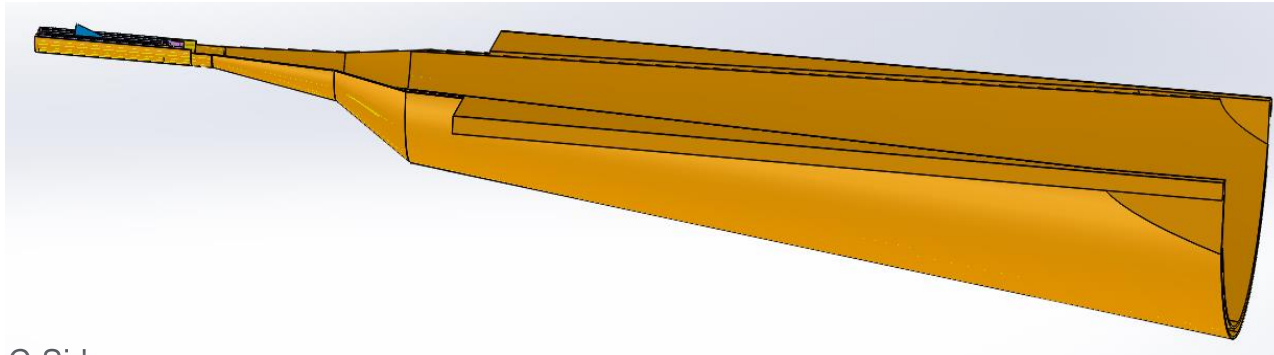
2 / 6





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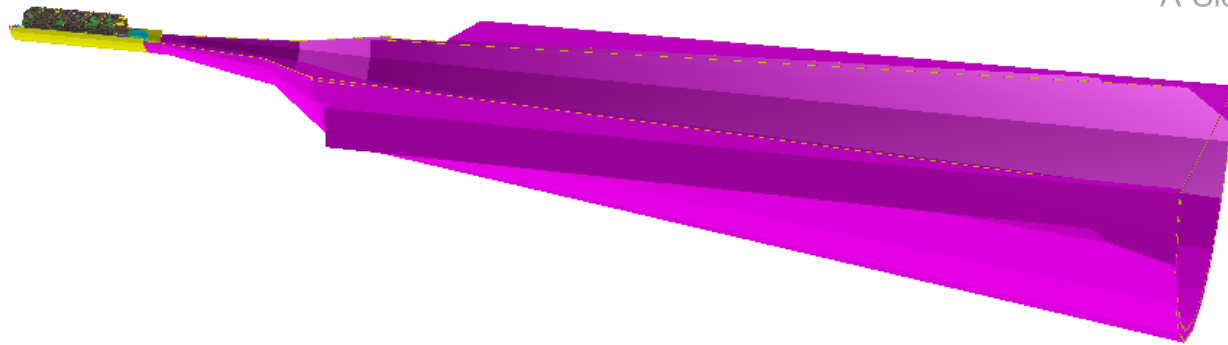
Result : IB SB (cone)



STEP file

C-Side

A-Side



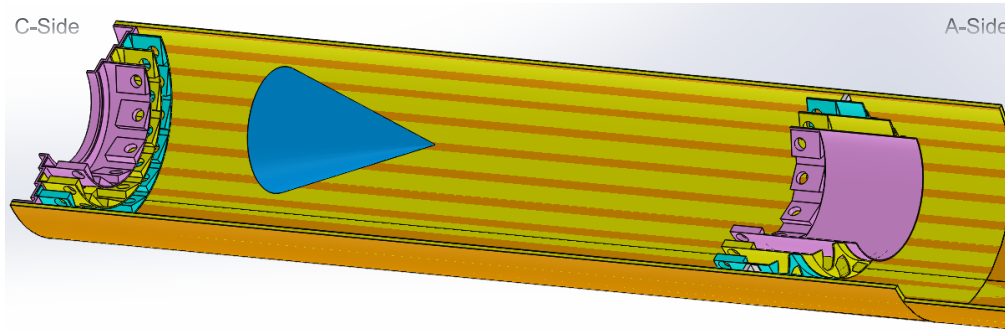
AliRoot



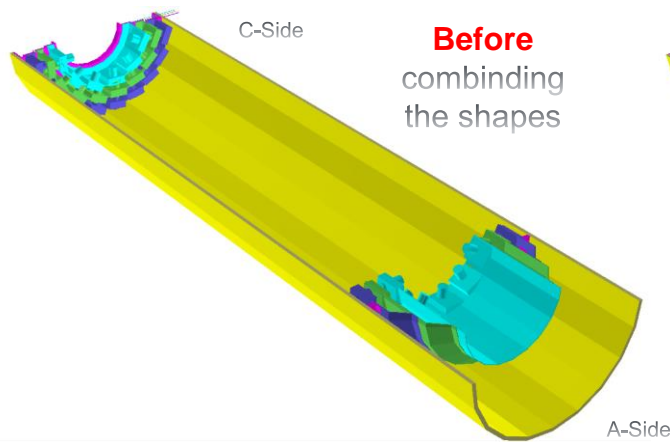


ALICE

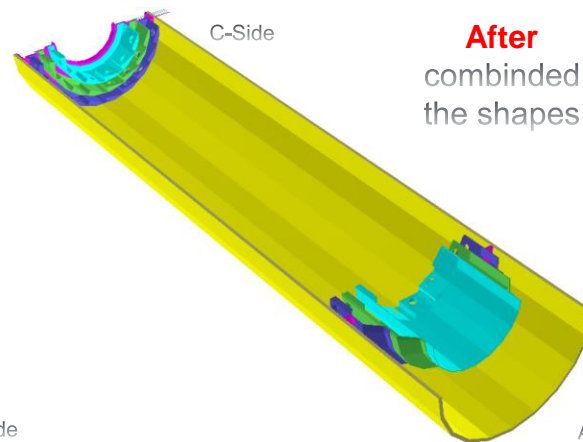
Result : IB SB (stave holding)



STEP file



Before
combining
the shapes



After
combined
the shapes

AliRoot

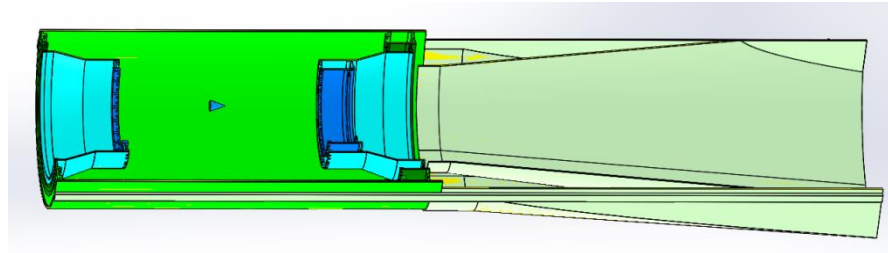




ALICE

Next

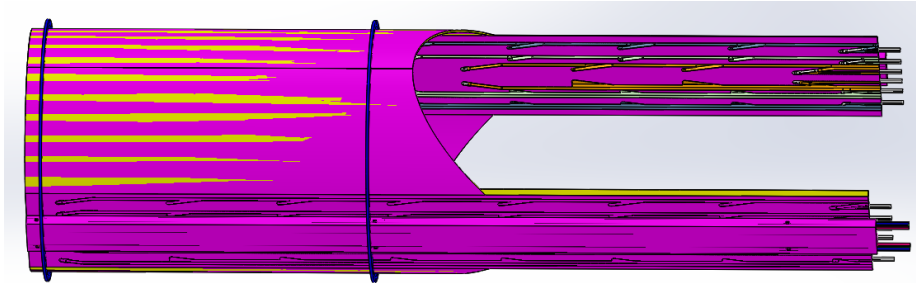
- Outer Barrel
Service Barrel
(OB SB)



C-Side

A-Side

- Cage



- Calculate material budget
- Fix overlap problems

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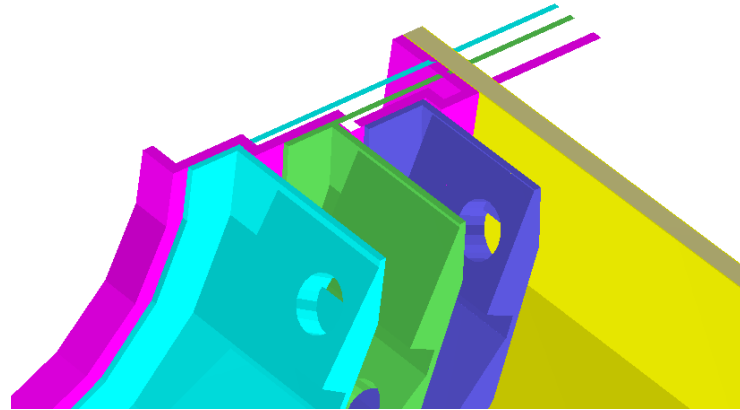




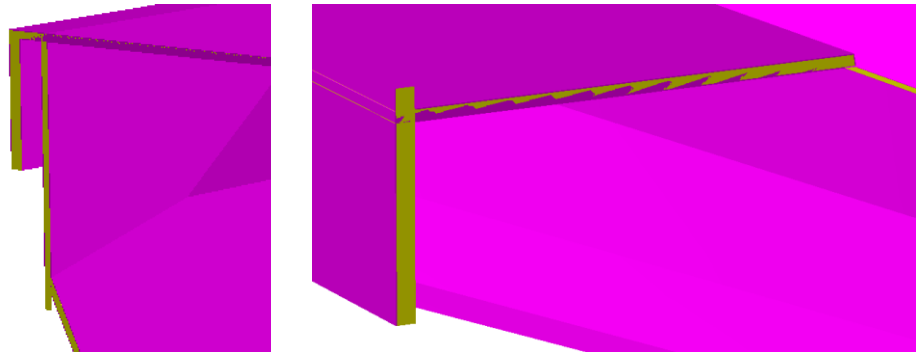
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Remarks

- Fragment in complicated shape.



- Fragment in cutting edge.



* These problems waiting for response from Mario.

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Thank you
for your attention



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