*WG1 – Cavity Production (A) -* Paolo Michelato and Akira Yamamoto

Status: March 10, 2014

Tue, March 25th, 4.5 hours, 13:30 – 18:00

1. Experience with Electron Beam Welding systems. Reliability of process, typical problems during production. Repair procedures for defects and imperfections: non penetrated welds, holes, splatters. (DESY, KEK, FNAL, companies). Kensei Umemori + (RI (Pekeler) + Corniani (EZ))

2. Welding of Niobium for superconductive cavities using different technique than EBW as laser welding. Prashant Khare

3. Cavities production at the companies: provocative discussion. What the companies considered as “hard to achieve” of our specs and request? (RI (Pekeler) + Corniani (EZ))

4. RF measurement during series production. From Half Cells to the complete cavity. HAZEMEMA and Cavity Tuning machine. Experience about the correct frequency / correct length estimation. Use of RF measurements for the estimation of the etching rate at equator and iris during EP and BCP processes. (DESY + other labs). Together with “Experience with the cavity tuning machine (CTM) during the series production of cavities for the European XFEL: operation and reliability issues”. Alexey Sulimov, (DESY) to be confirmed and Ambra Gresele (Zanon) to be confirmed.

5. Vacuum issues during series cavity production. Vacuum system operation. Slow Pumping Slow venting systems. Vacuum plants and instrumentation reliability. Vacuum contaminants. Paolo Michelato

6. PED: material and cavity fabrication. (Waldemar?), also for large grain.

7. Documentation for series cavities production as for the EXFEL. Advice for new projects. (Jens Iversen, To be confirmed, DESY), with some discussion about mechanical issues for the serial production of EXFEL cavities.

8. Helium vessel design and assembly directly related to the above alignment as well as high-pressure code handling, and also related the tuner assembly under various boundary conditions. [wg5]

9. Experience with cavity vendor manufacturing variations, (Camille proposal) We have representative of the companied that produce together 800 SC cavities.