

Beampipes for Gravitational Wave Telescopes 2023

Report of Contributions

Contribution ID: 1

Type: **not specified**

Welcome and motivation

Monday, March 27, 2023 9:00 AM (10 minutes)

Presenter: JIMENEZ, Jose Miguel (CERN)

Session Classification: Monday morning

Contribution ID: 2

Type: **not specified**

Next generation Gravitational Wave Observatories and vacuum S&T as a key for their success

Monday, March 27, 2023 9:10 AM (20 minutes)

Primary author: ZUCKER, M. (MIT-LIGO (US))

Presenter: ZUCKER, M. (MIT-LIGO (US))

Session Classification: Monday morning

Contribution ID: 3

Type: **not specified**

Einstein Telescope: status of the project, planning and requirements for the beampipe vacuum system

Monday, March 27, 2023 10:00 AM (30 minutes)

Presenter: WERNEKE, Patrick (Nikhef National institute for subatomic physics (NL))

Session Classification: Monday morning

Contribution ID: 4

Type: **not specified**

Cosmic Explorer: status of the project, planning and requirements for the beampipe vacuum system

Monday, March 27, 2023 9:30 AM (30 minutes)

Presenter: FEICHT, Jon (Caltech)

Session Classification: Monday morning

Contribution ID: 5

Type: **not specified**

Experience with the present vacuum systems for GWT: LIGO, Virgo, KAGRA, GEO600

Monday, March 27, 2023 10:50 AM (35 minutes)

Primary author: GRADO, Aniello (INAF/INFN)

Presenter: GRADO, Aniello (INAF/INFN)

Session Classification: Monday morning

Contribution ID: 6

Type: **not specified**

Summary of the 2019 Livingston workshop and proposed research topics

Monday, March 27, 2023 11:25 AM (30 minutes)

Presenter: DYLLA, Fred

Session Classification: Monday morning

Contribution ID: 7

Type: **not specified**

Materials and their production processing for ET's beampipes

Monday, March 27, 2023 2:10 PM (25 minutes)

Primary author: PEREZ FONTENLA, Ana Teresa (CERN)

Presenter: PEREZ FONTENLA, Ana Teresa (CERN)

Session Classification: Monday afternoon

Contribution ID: 8

Type: **not specified**

Microstructure of Mild Steels and Potential for Magnetite as a Passive Coating in CE

Monday, March 27, 2023 1:35 PM (35 minutes)

Presenter: HENKEL, D. (LIGO Consultant)

Session Classification: Monday afternoon

Contribution ID: 9

Type: **not specified**

Design of beampipes for GWT

Monday, March 27, 2023 2:35 PM (40 minutes)

Presenter: DELEGLISE, Guillaume Julien (Centre National de la Recherche Scientifique (FR))

Session Classification: Monday afternoon

Contribution ID: 10

Type: **not specified**

Design of optical baffles and their integration in beampipes

Monday, March 27, 2023 4:40 PM (20 minutes)

Presenter: MARTINEZ-PEREZ, Mario (The Barcelona Institute of Science and Technology (BIST) (ES))

Session Classification: Monday afternoon

Contribution ID: 11

Type: **not specified**

Manufacturing and welding options

Monday, March 27, 2023 4:00 PM (20 minutes)

Primary author: FAVRE, Gilles (CERN)

Presenter: FAVRE, Gilles (CERN)

Session Classification: Monday afternoon

Contribution ID: 12

Type: **not specified**

Options for surface finishing of beampipes for gravitational wave telescopes

Monday, March 27, 2023 5:00 PM (20 minutes)

Primary author: MARQUES ANTUNES FERREIRA, Leonel (CERN)

Presenter: MARQUES ANTUNES FERREIRA, Leonel (CERN)

Session Classification: Monday afternoon

Contribution ID: 13

Type: **not specified**

Cost assessment guidelines

Wednesday, March 29, 2023 9:20 AM (20 minutes)

Presenter: Dr FERREIRA SOMOZA, Jose Antonio (CERN)

Session Classification: Wednesday morning

Contribution ID: 14

Type: **not specified**

Summary T1 : Material choice and processing

Wednesday, March 29, 2023 9:40 AM (30 minutes)

Co-authors: HENKEL, Daniel (LIGO Consultant); Dr SGOBBA, Stefano (CERN)

Presenters: HENKEL, Daniel (LIGO Consultant); Dr SGOBBA, Stefano (CERN)

Session Classification: Wednesday morning

Contribution ID: 15

Type: **not specified**

Summary T2 : Design, manufacturing, post-manufacturing treatments, QA and assembly

Wednesday, March 29, 2023 10:35 AM (30 minutes)

Co-author: DELEGLISE, Guillaume Julien (Centre National de la Recherche Scientifique (FR))

Presenters: GARION, Cedric (CERN); DELEGLISE, Guillaume Julien (Centre National de la Recherche Scientifique (FR))

Session Classification: Wednesday morning

Contribution ID: 16

Type: **not specified**

Summary T3 : Pumping system, valves, sectorisation and bakeout

Wednesday, March 29, 2023 11:05 AM (30 minutes)

Co-authors: PASQUALETTI, Antonio (EGO-Virgo); BREGLIOZZI, Giuseppe (CERN)

Presenters: PASQUALETTI, Antonio (EGO-Virgo); BREGLIOZZI, Giuseppe (CERN)

Session Classification: Wednesday morning

Contribution ID: 17

Type: **not specified**

Summary T4: Assembly procedures and bakeout.

Presenters: WERNEKE, Patrick (Nikhef National institute for subatomic physics (NL)); CRUIK-SHANK, Paul (CERN)

Session Classification: Wednesday morning

Contribution ID: **18**

Type: **not specified**

Conclusions & wrap-up

Wednesday, March 29, 2023 11:35 AM (25 minutes)

Session Classification: Wednesday morning

Contribution ID: 19

Type: **not specified**

A review of recent outgassing studies on mild and stainless steels

Tuesday, March 28, 2023 9:00 AM (20 minutes)

Presenter: FEDCHAK, James

Session Classification: Tuesday morning

Contribution ID: 20

Type: **not specified**

Vacuum measurements of materials and coatings for GWD beampipes

Tuesday, March 28, 2023 9:20 AM (20 minutes)

Primary author: WEVERS, Ivo (CERN)

Presenter: WEVERS, Ivo (CERN)

Session Classification: Tuesday morning

Contribution ID: 21

Type: **not specified**

Sectorisation, pumping system, commissioning and operation of ET beampipes

Tuesday, March 28, 2023 9:40 AM (40 minutes)

Primary author: SCARCIA, Carlo (Rheinisch Westfaelische Tech. Hoch. (DE), CERN)

Presenter: SCARCIA, Carlo (Rheinisch Westfaelische Tech. Hoch. (DE), CERN)

Session Classification: Tuesday morning

Contribution ID: 23

Type: **not specified**

Cryopumps at the extremities of the beampipes: design and performance

Tuesday, March 28, 2023 10:40 AM (20 minutes)

Presenter: HANKE, Stefan (KIT-ITEP)

Session Classification: Tuesday morning

Contribution ID: 24

Type: **not specified**

Leak Detection: from component production to system installation.

Tuesday, March 28, 2023 11:20 AM (20 minutes)

Primary author: CRUIKSHANK, Paul (CERN)

Presenter: CRUIKSHANK, Paul (CERN)

Session Classification: Tuesday morning

Contribution ID: 25

Type: **not specified**

The ET pilot sector at CERN

Tuesday, March 28, 2023 12:00 PM (20 minutes)

Presenter: HANSEN, Jan (CERN)

Session Classification: Tuesday morning

Contribution ID: 26

Type: **not specified**

Dust in the beampipe: contribution to noise.

Tuesday, March 28, 2023 11:00 AM (20 minutes)

Presenter: MOSCATELLO, Andrea (University of Padua)

Session Classification: Tuesday morning

Contribution ID: 27

Type: **not specified**

Installation and logistics (manufacturing facility, storage, transport, timeline)

Tuesday, March 28, 2023 11:40 AM (20 minutes)

Primary author: SCIBILE, Luigi (CERN)

Presenter: SCIBILE, Luigi (CERN)

Session Classification: Tuesday morning

Contribution ID: 28

Type: **not specified**

Topical discussion T1: Material choice and processing

Tuesday, March 28, 2023 2:00 PM (1h 30m)

Session Classification: Tuesday Afternoon Parallel Session: Material choice and processing

Contribution ID: 29

Type: **not specified**

Coffee break

Session Classification: Tuesday Afternoon Parallel Session: Material choice and processing

Contribution ID: **30**

Type: **not specified**

Topical discussion T1: Material choice and processing

Tuesday, March 28, 2023 4:00 PM (1h 30m)

Session Classification: Tuesday Afternoon Parallel Session: Material choice and processing

Contribution ID: **31**

Type: **not specified**

Summary session

Session Classification: Tuesday Afternoon Parallel Session: Material choice and processing

Contribution ID: 32

Type: **not specified**

Topical discussion T2: Design, manufacturing, post-manufacturing treatment, QA and assembly

Tuesday, March 28, 2023 2:00 PM (1h 30m)

Session Classification: Tuesday Afternoon Parallel Session: Design, manufacturing, post-manufacturing treatment, QA and assembly

Contribution ID: 33

Type: **not specified**

Topical discussion T2: Design, manufacturing, post-manufacturing treatment, QA and assembly

Tuesday, March 28, 2023 4:00 PM (1h 30m)

Session Classification: Tuesday Afternoon Parallel Session: Design, manufacturing, post-manufacturing treatment, QA and assembly

Contribution ID: 34

Type: **not specified**

Summary session

Session Classification: Tuesday Afternoon Parallel Session: Design, manufacturing, post-manufacturing treatment, QA and assembly

Contribution ID: 35

Type: **not specified**

Topical discussion T3: Pumping system, valves, sectorisation and bakeout

Tuesday, March 28, 2023 2:00 PM (1h 30m)

Presenter: BREGLIOZZI, Giuseppe (CERN)

Session Classification: Tuesday Afternoon Parallel Session: Pumping system, valves, sectorisation and bakeout

Contribution ID: 36

Type: **not specified**

Topical discussion T3: Pumping system, valves, sectorisation and bakeout

Tuesday, March 28, 2023 4:00 PM (1h 30m)

Presenter: BREGLIOZZI, Giuseppe (CERN)

Session Classification: Tuesday Afternoon Parallel Session: Pumping system, valves, sectorisation and bakeout

Contribution ID: 37

Type: **not specified**

Summary session

Session Classification: Tuesday Afternoon Parallel Session: Pumping system, valves, sectorisation and bakeout

Contribution ID: **38**

Type: **not specified**

Topical discussions

Session Classification: Tuesday Afternoon Parallel Session: Assembly procedures and bake-out.

Contribution ID: 39

Type: **not specified**

Topical discussions

Session Classification: Tuesday Afternoon Parallel Session: Assembly procedures and bake-out.

Contribution ID: 40

Type: **not specified**

Summary session

Session Classification: Tuesday Afternoon Parallel Session: Assembly procedures and bake-out.

Contribution ID: 41

Type: **not specified**

Topical discussions

Session Classification: Monday Parallel session; Material choice and processing

Contribution ID: 42

Type: **not specified**

Topical discussions

Session Classification: Monday Parallel session: Design, manufacturing and post-production treatments

Contribution ID: 43

Type: **not specified**

Topical discussions

Session Classification: Monday Parallel session: Pumping system, valves and sectorisation

Contribution ID: 44

Type: **not specified**

Topical discussions

Session Classification: Monday Parallel session: Assembly procedures and bakeout.

Contribution ID: 46

Type: **not specified**

Control systems

Wednesday, March 29, 2023 9:00 AM (20 minutes)

Presenter: PIGNY, Gregory (CERN)

Session Classification: Wednesday morning

Contribution ID: 47

Type: **not specified**

Beampipe Vacuum Studies for Cosmic Explorer

Session Classification: Monday morning

Contribution ID: 48

Type: **not specified**

Beampipe Vacuum Studies in the ET collaboration

Monday, March 27, 2023 11:55 AM (20 minutes)

Presenter: VAN REMORTEL, Nick (University of Antwerp (BE))

Session Classification: Monday morning

Contribution ID: 49

Type: **not specified**

Vacuum Studies for Beampipe at NIKHEF

Session Classification: Monday morning

Contribution ID: 50

Type: **not specified**

CERN mandate for GWT beampipe studies

Session Classification: Monday afternoon

Contribution ID: 51

Type: **not specified**

On-site production of quasi-continuous UHV pipes

Monday, March 27, 2023 4:20 PM (20 minutes)

Presenter: PURRIO, Marion (FEF Aachen)

Session Classification: Monday afternoon

Contribution ID: 52

Type: **not specified**

Vacuum challenges for next generation Gravitational Wave Telescopes

Monday, March 27, 2023 3:40 PM (20 minutes)

Presenter: WEISS, Rainer

Session Classification: Monday afternoon

Contribution ID: 53

Type: **not specified**

Introduction to topic discussions

Tuesday, March 28, 2023 12:20 PM (10 minutes)

Presenter: CHIGGIATO, Paolo (CERN)

Session Classification: Tuesday morning