The Laser-hybrid Accelerator for Radiobiological Applications

R&D proposal for the preliminary, pre-construction phase

The LhARA collaboration

This author list was taken from the Frontiers publication and must be updated.

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Executive summary

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Indicative page count: 1

Lay summary

Lead authors: H. Hall, G. Jones
Indicative page count: 1

1 Motivation

This line just to allow a reference to check the bibliography [1].

1.1 Overview

Lead authors: A. Giacca, K. Long
Indicative page count: 1

1.2 Scientific case

Lead authors: J. Parsons, K. Kirkby, Y. Prezado, K. Prise
Indicative page count: 2.5

1.3 Technological advancement

Lead authors: T. Greenshaw, H. Owen, J.B. Lagrange, M. Borghesi, P. McKenna, F. Romano
Indicative page count: 2

1.4 Impact

Lead authors: F. Jamieson, W. Luk, P. Price, G. Schettino, S. Towe
Indicative page count: 2

2 LhARA; the Laser-hybrid Accelerator for Radiobiological Application

2.1 Overview

Lead authors: A. Giacca, K. Long
Indicative page count: 0.75

2.2 Conceptual design

Lead authors: W. Shields, T.S. Dascalu
Indicative page count: 2

2.3 Staging

Lead authors: K. Long, C. Whyte
Indicative page count: 0.75

2.4 Timeline for the LhARA initiative

Lead authors: T. Kokolova-Wheldon, K. Kirkby, C. Whyte
Indicative page count: 1

3 Preparatory, pre-construction phase proposal

3.1 Project Managemennt

Lead authors: J. Parsons, C. Whyte
Indicative page count: 2.5

3.2 Laser-driven proton and ion source

Lead authors: E. Boella, N. Dover, R. Gray
Indicative page count: 2.5

3.3 Proton and ion capture

Lead authors: W. Bertsche, M. Charlton
Indicative page count: 2.5

3.4 Real-time dose-deposition profiling

Lead authors: J. Bamber, J. Matheson
Indicative page count: 2.5

3.5 Novel, automated end-station development

Lead authors: R. McLauchlan, T. Price
Indicative page count: 2.5

3.6 Facility design and integration

Lead authors: J. Pasternak, N. Bliss
Indicative page count: 2.5

4 Summary

Lead authors: A. Giacca, K. Long
Indicative page count: 1

References

[1] **LhARA** Collaboration, G. Aymar *et al.*, "The Laser-hybrid Accelerator for Radiobiological Applications," 2006.00493.

A Annex: LhARA preliminary, pre-construction phase project specification

A.1 Introduction

Lead authors: A. Giacca, K. Long
Indicative page count: 0.5

A.2 Work package details

Lead authors: Work-packages managers, one section per work package.
Indicative page count: 2.5 pages per work package

A.3 Staff effort

Lead authors: K. Long, C. Whyte

A.4 Overview of preliminary, pre-construction phase project costs

Lead authors: K. Long, C. Whyte

A.5 Schedule and milestones

Lead authors: K. Long, C. Whyte: digested from WP schedules.

A.6 Risk

Lead authors: K. Long, C. Whyte: digested from WP risks

A.7 Stakeholder, outreach, and engagement plans

Lead authors: J. Parsons, P. Price
Indicative page count: 2

A.8 Project organisation, management, and reporting

Lead authors: K. Long, C. Whyte