

# **ICFA Mini Workshop on High Order Modes in Superconducting Cavities (HOMSC14)**

Physics Procedia Volume 79

Batavia, Illinois, USA  
14 - 16 July 2014

## **Editors:**

**Nicoleta Baboi  
Roger Jones  
Ursula van Rienen**

**Nikolay Solyak  
Vyacheslav Yakovlev**

ISBN: 978-1-5108-1695-4

**Printed from e-media with permission by:**

Curran Associates, Inc.  
57 Morehouse Lane  
Red Hook, NY 12571



**Some format issues inherent in the e-media version may also appear in this print version.**

Copyright© by Elsevier B.V.  
All rights reserved.

Printed by Curran Associates, Inc. (2016)

For permission requests, please contact Elsevier B.V.  
at the address below.

Elsevier B.V.  
Radarweg 29  
Amsterdam 1043 NX  
The Netherlands

Phone: +31 20 485 3911  
Fax: +31 20 485 2457

<http://www.elsevierpublishingsolutions.com/contact.asp>

**Additional copies of this publication are available from:**

Curran Associates, Inc.  
57 Morehouse Lane  
Red Hook, NY 12571 USA  
Phone: 845-758-0400  
Fax: 845-758-2634  
Email: [curran@proceedings.com](mailto:curran@proceedings.com)  
Web: [www.proceedings.com](http://www.proceedings.com)



## Contents

HOMs of the SRF Electron Gun Cavity in the BNL ERL H. Hahn, I. Ben-Zvi, S. Belomestnykh, L. Hammons, V. Litvinenko, Y.R. Than, R. Todd, D. Weiss, W. Xu . . . . .	1
Distribution of Heating from Untrapped HOM Radiation in the LCLS-II Cryomodules K. Bane, C. Nantista, C. Adolphsen, T. Raubenheimer, A. Saini, N. Solyak, V. Yakovlev . . . . .	13
Beam Dynamics in the ESS Linac under the Influence of Monopole and Dipole HOMs A. Farricker, R.M. Jones, S. Molloy . . . . .	21
High Order Modes Survey and Mitigation of the CEBAF C100 Cryomodules J. Guo, H. Wang . . . . .	30
Computational Benefits Using an Advanced Concatenation Scheme Based on Reduced Order Models for RF Structures J. Heller, T. Flisgen, U. van Rienen . . . . .	38
Cumulative HOM Excitation and Transition Effects in LCLS-II A. Vostrikov, A. Sukhanov, V. Yakovlev, N. Solyak . . . . .	46
Design of a Quasi-waveguide Multicell Deflecting Cavity for the Advanced Photon Source A. Lunin, I. Gonin, M. Awida, T. Khabiboulline, V. Yakovlev, A. Zholents . . . . .	54
Higher Order Mode Coupler Heating in Continuous Wave Operation N. Solyak, M. Awida, A. Hocker, T. Khabiboulline, A. Lunin . . . . .	63