

B47

## Multilayer Optics for Harmonic Control of Angiography Beam Line Sources

R. Tatchyn and T. Cremer

*Stanford Synchrotron Radiation Laboratory, Stanford Linear Accelerator Center, Stanford, CA 94304, USA*

D. Boyers, Q. Li, and M. Piestrup

*Adelphi Technology, Inc., 2181 Park Blvd., Palo Alto, CA 94306, USA*

In recent work multilayers with band-tailored optics for Dual Energy Digital Subtraction Angiography (DDSA) applications have been designed and tested at SSRL. Control of various multilayer parameters, including period grading, ratio of high to low Z material thickness, number of layers, etc., were used to produce reflectors with bandwidths ranging from 0.6%-10% and efficiencies in the 30%-95% range [1]. In this paper we consider the control of multilayer bandshapes and the implementation of double-reflection multilayer configurations to suppress or eliminate the 66KeV and 99keV higher harmonics present on angiography beam lines driven by wiggler sources.

[1] D. Boyers, A. Ho, Q. Li, M. Piestrup, M. Rice, R. Tatchyn, Nucl. Instrum. Meth. A346, 565(1994).

\*Work supported by the Department of Energy through CRADA SLAC-9302. Work performed at SSRL and SLAC, which are operated by the Department of Energy, Offices of Basic Energy Sciences and High Energy and Nuclear Physics.