

Preliminary agenda of the 6th USA OptiLayer workshop, Orlando FL

“Modern Optical Coatings: from design to practical applications”

Alexander Tikhonravov, Michael Trubetskov, Michael Fulton, Jennifer Kruschwitz

Monday

- 9:00 Opening speech (Jennifer Kruschwitz)
- 9:10 Introduction to OptiLayer software (Alexander Tikhonravov)
- 9:55 Basics of thin film theory (Alexander Tikhonravov)
- 10:40 Coffee break**
- 11:00 Fresnel equations, Brewster’s angle, TIR, incoherent multiple reflections, Beer’s Law (Jennifer Kruschwitz)
- 11:45 Advanced topics in the analysis of multilayers (Alexander Tikhonravov)
- 12:30 Lunch**
- 13:30 Graphical techniques, vector diagrams, simple AR and HR, metals (Jennifer Kruschwitz)
- 14:15 Modern principles of software interface implemented in OptiLayer software (Michael Trubetskov)
- 15:00 Coffee break**
- 15:20 Overview of the design options of OptiLayer (Alexander Tikhonravov)
- 16:05 Q&A session
- 17:00-18:00 Break**
- 18:00 Dinner Reception** (*guests invited to attend*)

Tuesday

- 9:00 Needle optimization technique (Alexander Tikhonravov)
- 9:45 Practical aspects of designing, gradual evolution design approach (Alexander Tikhonravov)

- 10:30 Coffee break**
- 10:50 Additional non-local design approaches (Alexander Tikhonravov)
- 11:35 Advanced evaluation and design features of the OptiLayer software (Michael Trubetskov)
- 12:20 Lunch**
- 13:30 High reflectors, overlapping stacks, metal coatings, tilted coatings, polarizers, phase effects (Jennifer Kruschwitz)
- 14:15 Design of WDM filters (Alexander Tikhonravov)
- 15:00 Coffee break**
- 15:20 Design of multilayers with specific phase properties (Alexander Tikhonravov)
- 16:05 Q&A session

Wednesday

- 9:00 Presentation capabilities of OptiLayer (Michael Trubetskov)
- 9:45 Color properties of multilayers (Michael Trubetskov)
- 10:30 Coffee break**
- 10:50 Comparison of multilayer and rugate coatings (Alexander Tikhonravov)
- 11:35 Optical coating production: manufacturing issues with equipment, technology, and control (Michael Fulton)
- 12:20 Lunch**
- 13:30 Advanced energetic deposition processes (Michael Fulton)
- 14:15 Typical thin film materials, specific features of film growth under various conditions (Michael Fulton)
- 15:00 Coffee break**
- 15:20 Pre-production error analysis (Alexander Tikhonravov)
- 16:05 Q&A session

Thursday

- 9:00 Optical monitoring of coating production – 1 (Alexander Tikhonravov)
- 9:45 Optical monitoring of coating production – 2 (Alexander Tikhonravov)
- 10:30 Coffee break**
- 10:50 Computational manufacturing of optical coatings (Alexander Tikhonravov)
- 11:35 Optical characterization of thin films (Alexander Tikhonravov)
- 12:20 Lunch**
- 13:30 Import of data to the programs of OptiLayer software family (Michael Trubetskov)
- 14:15 Analysis of spectral photometric data with OptiChar (Alexander Tikhonravov)
- 15: 00 Coffee break**
- 15:20 Analysis of spectral ellipsometric data with OptiChar (Alexander Tikhonravov)
- 16:05 Q&A session

Friday

- 9:00 High-end applications of thin film coatings – International Space Station (Michael Fulton)
- 9:45 Methodology for reverse engineering of optical coatings with OptiRE (Jennifer Kruschwitz)
- 10:30 Coffee break**
- 10:50 Automation support for integrating OptiRE in the production environment (Michael Trubetskov)
- 11:35 OptiReOpt library for automation of coating production (Michael Trubetskov)
- 12:20** Closing discussions (Jennifer Kruschwitz)