

Mirror Technology SBIR/STTR Workshop

June 7th to 9th, 2010

Millennium Harvest House, Boulder CO

Monday June 7				
Pre-Solicitation Workshop				
#	Time	Presenter	Title	Organization
	730	CONTINENTAL BREAKFAST		
0	800	Stahl	Welcome	NASA
		Government Perspective		
1	810	Moore	NASA HQ overview, an SMD perspective Michael R. Moore, Chief Technologist, SMD	NASA
2	840	Graczyk	NASA SBIR: Proposal Solicitation, Technology Infusion and Post-SBIR Opportunities	NASA/JPL
3	900	Stahl	NASA SBIR Subtopic S2.04 "Advanced Optical Components" 2009 Results and 2010 Call for Proposals	NASA
4	920	Arsenovic	NASA SBIR Subtopic S2.05 "Optics Manufacturing and Metrology for Telescope Optical Surfaces" 2009 Results & 2010 Call	NASA
5	940	Zhang	Mirror technology for the International X-ray Observatory mission	NASA
	1000	COFFEE		
6	1030	Stahl	Parametric Cost Model for Space Telescopes	NASA
7	1050	Hagopian	Segmented Spherical Primary Optical Telescope	NASA
8	1110	Dumm	Modular Optic Needs	AFRL
		Prime Contractor Perspective		
9	1130	Makowski	Raytheon's Mirror Technology Needs	Raytheon
	1150	LUNCH		
Funded Project Status Reviews – OPEN				
10	1300	Thompson	Misalignment Induced Aberrations of JWST: Isolating Low Order Primary Mirror Figure Residuals from Misalignment	ORA
		Materials and Substrates		
11	1320	Witkin	Results from Mechanical Testing of SiC for Space Applications: Non-Destructive Evaluation Samples and MISSE-6 Experiment Samples	Aerospace
12	1340	Dahl	Rapid Fabrication of Ultra-lightweight Borosilicate Mirrors	ITT
13	1400	Tellam	Low Cost, Light Weight Polymer Derived Mirror Substrate	UMS
		Optical Testing		
14	1420	Fischer	In-process testing for cryo-figuring 1.5 m auto-collimating flats	ITT
15	1440	Trolinger	Enhanced Interferometry with Programmable Spatial Light Modulator	Metrolaser
	1500	COFFEE		
		Optical Coatings		
16	1520	Wood	Robust, High Temperature Coatings for Deep Concave Surfaces	PrecsPhoton
17	1540	Patterson	Multilayer Optical Coatings for UVT-PMMA Fresnel Lenses	Nanohmics
18	1600	Sheikh	Very Large Solar Rejection Filter for Laser Communication	SurfaceOptics
		Deformable & Membrane Mirrors		
19	1620	Cornelissen	High Actuator Count MEMS Deformable Mirrors for Space Telescope	Boston MM
20	1640	Helmbrecht	Large-Actuator-Count MEMS Deformable Mirror Development	Iris AO
21	1700	Korde	Closed loop control of electrostatic actuators for membrane reflectors	SDSM&T
	1730	RECEPTION		

Tuesday June 8
Funded Project Status Reviews

#	Time	Presenter	Title	Organization
	730	CONTINENTAL BREAKFAST		
Funded Project Status Reviews – OPEN				
22	800	Vargas	SiC Design Guide	Entegris/POCO
Optical Fabrication Technology				
23	820	Tricard	MRF® developments & asphere metrology using VONTM technology	QED Tech
24	840	Mohring	Recent Developments in the UltraForm Finishing and UltraSurf Measuring of Axisymmetric IR Domes	OptiPro
25	900	Thompson	In-situ metrology for Corrective Polishing of Replicating Mandres	Zeeko
26	920	Kong	Optical Finishing of Lightweight SiC Convex Hyperbolic Mirror	PrecisionAsph
27	940	Singh	Novel Reactive Chemical Mechanical Polishing (RCMP) Method for Rapid Damage-Free Finishing of SiC Mirrors	Sinmat
	1000	COFFEE		
28	1030	Nelson	Eliminating mid-spatial frequency errors with VIBE finishing	Optimax
29		Nelson	Implementing VIBE to polish hard ceramic materials and tangent ogives	Optimax
30	1100	Jacobsen	Laser Micromachining Process for Fabricating SiC Mirrors	Mound Laser
31	1120	Casstevens	Low cost Very Large Diamond Turned Metal Mirror	DOS
32		Casstevens	Very High Load Capacity Air Bearing Spindle for Large Diamond Turning Machines	DOS
	1150	Photograph		
	1200	LUNCH		
Special Session: JWST Optical Telescope Mirror Assemblies - ITAR				
33	1300	Lewis	Overview of OTE Mirror Fabrication and Certification Process	BATC
34	1310	Lewis	Assembly of PMSA	BATC
35	1330	Lee	Tinsley Manufacture and Test	Tinsley
36	1400	Chaney	PMSA Testing at BOTS	BATC
37	1420	Hadaway	PMSA Cryo-Test Process and Test Results	UAH
	1450	COFFEE		
38	1520	Smith	SMA Manufacture, Testing and Optical Performance	BATC
39	1540	Smith	TMA Manufacture, Testing and Optical Performance	BATC
40	1600	Schwenker	FSM Manufacture, Testing and Optical Performance	BATC
	1620	PANEL DISCUSSION		
	1700	First BATC PMSA Assembly and Test Area Tour		
	1900	Last BATC PMSA Assembly and Test Area Tour		

Wednesday June 9

#	Time	Presenter	Title	Organization
	730	CONTINENTAL BREAKFAST		
Funded Project Status Reviews – OPEN				
41	800	West	4 m Monolithic Telescope	Arizona
Funded Project Status Reviews – ITAR CONTROL – CLOSED				
42	820	Dahl	Ultralightweight Glass Mirror Project	ITT
43	840	Tanaka	Innovative Closed Form CVC SiC Mirrors	TREX
44	900	Goodman	Chemical Vapor Composite SiC for Radiation Hard Optics	TREX
45		Goodman	CVC SiC Replacement for Beryllium Mirrors	TREX
46		Goodman	Dimensionally Stable and Survivable VIS/IR CVC SiC Mirrors for the Space Tracking and Surveillance System	TREX
47		Goodman	Large Aperture CVC SiC Mirrors for High Energy Lasers	TREX
	1000	COFFEE		
48	1020	Marusich	Reflective & Transmission Optics Ductile Mode Machining Advances	ThirdWaveSys
49	1040	Michel	Advanced Light-Weight on Orbit Gimbal System	BrushWellman
50	1100	Lepadatu	Segmented SiC Mirrors	Entegris/POCO
51		Lepadatu	Gimbal SiC Mirrors	Entegris/POCO
CLOSED: Deformable & Membrane Mirrors				
52	1130	Flint	Progress in Demonstrating Electrostatic Actuation of Membrane Shells	Mevicon
53		Flint	Extremely Low Areal Density Composite Isogrid Supported Membrane Optical Shell Reflector Progress	Mevicon
	1200	LUNCH		
CLOSED: Optical Testing				
54	1300	Lowry	Technology Developments for Using Mirrors in Cryovacuum Test Chamber Applications	AEDC
55	1320	Wortley	Design & Fabrication of JWST Cryo-Auto-Collimation Flats	Hextek
56	1340	North-Morris	Multi-wavelength interferometer design and verification testing	4D
CLOSED: Optical Coatings				
57	1400	Van Milligen	Coating Large Optics for the AirBorne Laser: Flight Primary and the Conformal Window	JDSU
58	1420	Reynard	Testing Performance Results of Reynard Hardened Coatings	Reynard
59	1440	Sheikh	High Reflectivity, Broad-Band Silver Coating	SurfaceOptics
60	1500	Sheikh	Stress-matched RF & Thermal Control Coatings for Membrane Antenna	SurfaceOptics
61	1520	Scheld	Optical Black Coatings	N-Science Co
	1540	COFFEE		
Government Only				
62	1610	Kuhn	X-Ray testing at NIF of coatings, substrates, mirrors, and telescopes for MDA applications	Opt-e
63	1630	Jacoby	Silicon Carbide Lightweight Optics with Hybrid Skins for Large Aperture Cryogenic Telescopes	OPCI
	1650	Government Only Discussion		