

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	1020	Stahl	Parametric Cost Model for Space Telescopes	NASA
7	1040	Hagopian	Segmented Spherical Primary Optical Telescope	NASA
8	1100	Dumm	Modular Optic Needs	AFRL
		Prime Contractor Perspective		
9	1120	Makowski	Raytheon's Mirror Technology Needs	Raytheon
10	1140	Evans	BAE's Mirror Technology Needs	BAE
	1200	LUNCH		
Funded Project Status Reviews – OPEN				
9	1300	Thompson	Misalignment Induced Aberrations of JWST: Isolating Low Order Primary Mirror Figure Residuals from Misalignment	ORA
		Materials and Substrates		
10	1320	Witkin	Results from Mechanical Testing of SiC for Space Applications: Non-Destructive Evaluation Samples and MISSE-6 Experiment Samples	Aerospace
11	1340	West	4 m Monolithic Telescope	Arizona
12	1400	Egerman	Rapid Fabrication of Ultra-lightweight Borosilicate Mirrors	ITT
13	1420	Tellam	Low Cost, Light Weight Polymer Derived Mirror Substrate	UMS
		Optical Testing		
14	1440	Fischer	In-process testing for cryo-figuring 1.5 m auto-collimating flats	ITT
	1500	COFFEE		
15	1520	Trolinger	Enhanced Interferometry with Programmable Spatial Light Modulator	Metrolaser
		Optical Coatings		
16	1540	Wood	Robust, High Temperature Coatings for Deep Concave Surfaces	PrecsPhoton
17	1600	Patterson	Multilayer Optical Coatings for UVT-PMMA Fresnel Lenses	Nanohmics
18	1620	Scheld	Optical Black Coatings	N-Science Co
19	1640	Sheikh	Very Large Solar Rejection Filter for Laser Communication	SurfaceOptics
20	1700	Smith	Protected AL UV Coating	AAMU
		Deformable & Membrane Mirrors		
21	1720	Cornelissen	High Actuator Count MEMS Deformable Mirrors for Space Telescope	Boston MM
22	1740	Helmbrecht	Large-Actuator-Count MEMS Deformable Mirror Development	Iris AO
23	1800	Korde	Closed loop control of electrostatic actuators for membrane reflectors	SDSM&T
	1820	WELCOME RECEPTION		

Tuesday June 8
Funded Project Status Reviews

#	Time	Presenter	Title	Organization
	730	CONTINENTAL BREAKFAST		
Funded Project Status Reviews – OPEN				
24	800	Vargas	SiC Design Guide	Entegris/POCO
Optical Fabrication Technology				
25	820	Tricard	MRF® developments & asphere metrology using VON™ technology	QED Tech
26	840	Mohring	Recent Developments in the UltraForm Finishing and UltraSurf Measuring of Axisymmetric IR Domes	OptiPro
27	900	Thompson	In-situ metrology for Corrective Polishing of Replicating Mandres	Zeeko
28	920	Kong	Optical Finishing of Lightweight SiC Convex Hyperbolic Mirror	PrecisionAsph
29	940	Singh	Novel Reactive Chemical Mechanical Polishing (RCMP) Method for Rapid Damage-Free Finishing of SiC Mirrors	Sinmat
	1000	COFFEE		
30	1030	Nelson	Eliminating mid-spatial frequency errors with VIBE finishing	Optimax
31		Nelson	Implementing VIBE to polish hard ceramic materials and tangent ogives	Optimax
32	1100	Jacobsen	Laser Micromachining Process for Fabricating SiC Mirrors	Mound Laser
33	1120	Casstevens	Low cost Very Large Diamond Turned Metal Mirror	DOS
34		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				
35	1300	Shogrin	Overview of OTE Mirror Fabrication and Certification Process	BATC
36	1320	Lewis	Assembly of PMSA	BATC
37	1350	Gallagher	Status of PMSA Manufacture and Testing at Tinsley	BATC
38	1410	Chaney	PMSA Testing at BOTS	BATC
39	1430	Hadaway	PMSA Cryo-Test Process and Test Results	UAH
	1500	COFFEE		
40	1530	Smith	SMA Manufacture, Testing and Optical Performance	BATC
41	1550	Smith	TMA Manufacture, Testing and Optical Performance	BATC
42	1610	Schwenker	FSM Manufacture, Testing and Optical Performance	BATC
	1630	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 – ITAR CONTROL – CLOSED				
	800		OPEN	
43	820	Abplanalp	Ultralightweight Glass Mirror Project	ITT
44	840	Tanaka	Innovative Closed Form CVC SiC Mirrors	TREX
45	900	Goodman	Chemical Vapor Composite SiC for Radiation Hard Optics	TREX
46		Goodman	CVC SiC Replacement for Beryllium Mirrors	TREX
47		Goodman	Dimensionally Stable and Survivable VIS/IR CVC SiC Mirrors for the Space Tracking and Surveillance System	TREX
48		Goodman	Large Aperture CVC SiC Mirrors for High Energy Lasers	TREX
	1000	COFFEE		
49	1030	Marusich	Reflective & Transmission Optics Ductile Mode Machining Advances	ThirdWaveSys
50	1050	Michel	Advanced Light-Weight on Orbit Gimbal System	BrushWellman
51	1110	Lepadatu	Segmented SiC Mirrors	Entegris/POCO
52		Lepadatu	Gimbal SiC Mirrors	Entegris/POCO
	1140		OPEN	
	1200	LUNCH		
CLOSED: Optical Testing				
53	1300	Lowry	Technology Developments for Using Mirrors in Cryovaccum Test Chamber Applications	AEDC
54	1320	Wortley	Design & Fabrication of JWST Cryo-Auto-Collimation Flats	Hextek
55	1340	North-Morris	Multi-wavelength interferometer design and verification testing	4D
CLOSED: Optical Coatings				
56	1400	Van Milligen	Coating Large Optics for the AirBorne Laser: Flight Primary and the Conformal Window	JDSU
57	1420	Reynard	Testing Performance Results of Reynard Hardened Coatings	Reynard
58	1440	Sheikh	High Reflectivity, Broad-Band Silver Coating	SurfaceOptics
59		Sheikh	Stress-matched RF & Thermal Control Coatings for Membrane Antenna	SurfaceOptics
	1510	COFFEE		
CLOSED: Deformable & Membrane Mirrors				
60	1540	Flint	Progress in Demonstrating Electrostatic Actuation of Membrane Shells	Mevicon
61		Flint	Extremely Low Areal Density Composite Isogrid Supported Membrane Optical Shell Reflector Progress	Mevicon
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		