MORRIS J. WEISS

151 West Arthur Avenue
Arcadia, CA 91007
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Results-oriented chemical physicist, with 30 years R & D experience, and a proven success record leading to the development of spectroscopic sensors and their instrumentation, is seeking a technically challenging position. Solid hands-on experience in ion physics, electron scattering, IR-, visible-, and UV spectroscopy

EDUCATION - Ph.D., Physical Chemistry, University of Florida, Gainesville, FL

SECURITY LEVEL – Held DoD Secret Clearance (inactive for 4 years)

TECHNICAL SKILLS

- Focal Plane (HgCdTe) Sensor Array Analysis
- High Vacuum and Molecular Beams
- Mass Spectrometry GC/GC-MS
- Optical Emission Spectroscopy (UV, Vis, IR) of molecular beams
- Inductively-coupled plasma spectroscopy
- Analytical Chemistry and Surface Analysis
- IR Radiometry

PROFESSIONAL EXPERIENCE

NORTHROP GRUMMAN, Azusa, CA
Principal Systems Engineer

- Support of Focal Plane Array: Analyzed and quantified radiometric test data from an IR-active calibration unit and comparison with a known standard
- Suggested root causes of failure when FPA and ICU devices fail to deliver data in agreement with requirements for uniformity, stability, and irradiance
- Generate test plans for thermal vacuum chamber for integration of optical system with SBIRS Payload
- Calculate effects of thermal model on settling times of IR source
- Evaluate RGA (residual gas analyzer) for contamination control

Integration, Assembly, Test and Checkout (IAT&C)

- Generated integration and test plans for thermal vacuum chamber for integration of optical system with the Payload at Northrop Grumman in Azusa
- Evaluated contamination control data using RGA (Residual Gas Analyzer)

Other Qualifications and Techniques

- Established Class 1,000 clean room for vacuum deposition of metals and dielectric thin films.
  Experienced with design of clean room and contamination control devices
  Generated test plans and integration of clean rooms with vacuum metal deposition processes

- Performed, surface, and depth profiling analytical techniques.

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- Determine root cause of failure of RLG (ring laser gyro) mirrors and cathodes (using XPES, SIMS, TEM and ESCA) in support of ion-beam sputter coating system.
- 25 years experience in M&P, Analytical Chemistry, and Mass Spectrometry
- Experienced with Infrared (FTIR), Inductively Coupled Argon Plasma (ICAP), Ion Chromatography and GC-Mass Spectrometry (GC-MS) techniques
- Extremely computer literate. Excellent communication skills.
- Wrote test plans for performance evaluation of ring laser gyroscopes
- Experienced in high vacuum thermal techniques and operating procedures involving mass spectrometry, molecular beams, and optical emission) spectroscopy (UV, Visible, IR and their associated sensors

PRIOR EXPERIENCE

NASA AMES RESEARCH CENTER, Moffett Field, Mountain View, CA
Research Engineer

Constructed and tested black body source for 747-based Optical IR Schmidt-Cassegrain telescope. Responsible for evaluating telescope CCDs, sourcing and costing of optical telescope components.

LOCKHEED AERONAUTICAL SYSTEMS COMPANY, Burbank, CA
Research and Development Engineer

Developed FT-IR as an analytical tool for predicting structural failures in aircraft thermoplastic films and composites. Received one patent disclosure.

Pioneered process for evaluating quality of thermosetting plastics using reaction monitoring via FT-IR spectroscopy.

LITTON GUIDANCE AND CONTROL SYSTEMS, Woodland Hills, CA
Member of the Technical Staff and Department Supervisor

Developed ion-beam-sputter coating system for high performance laser mirrors.

Developed and instituted nondestructive spectroscopic emission techniques for revealing trace contamination levels in Ring Laser Gyros, resulting in a 40% increase in production.

Innovatively determined thermal gradient effects in laser gyros using UV-emission spectroscopy. The data was subsequently implemented in a design that resulted in a 30% improved product performance rate.

Analyzed and utilized surface and depth profiling techniques, failure analysis of mirrors and cathodes (XPES, SIMS, TEM and ESCA) in support of ion-beam sputter coating system.

HUGHES AIRCRAFT COMPANY, El Segundo, CA

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Staff Engineer

Developed and implemented the use of FTIR analytical techniques on contaminants, thin films, adhesives, pyrolytic products and nonvolatile residues. Established effective quality standards for materials.

Pioneered the use of Inductively-Coupled Plasma (ICP) techniques for evaluation of complex solder alloys.

LONG BEACH NAVAL SHIPYARD, Quality Assurance Division, L.B., CA
Acting Laboratory Division Manager & Manager of Laboratory Programs

Managed and obtained the LBNSY's Laboratory's State accreditation. Achieved Accreditation for Laboratory with California EPA.

Developed LBNSY's Hazardous Waste Analysis and Management Plans.

Wrote LBNSY's Laboratory Quality Control Manual.

Wrote all major SOPs for compliance with California EPA.

Gave training and technical guidance to chemists and technicians with analytical techniques and compliance procedures for laboratory accreditation.

Performed chemical analysis of hazardous wastes using instrumental techniques (GC-FTIR, FTIR, GC and ICP).

Received distinguished award from the Navy for lab accreditation effort

EARLIER CAREER WORK

Early career work in chemical physics included Scientist and Senior Lecturer positions at The Hebrew University of Jerusalem, Staff Physicist positions with the **National Bureau of Standards (now NIST)**, and **McDonnell-Douglas Research Laboratories**.

PUBLICATIONS - Thirty-two published papers and one patent

PROFESSIONAL MEMBERSHIPS

American Vacuum Society, American Chemical Society, American Physical Society, Society for the Advancement of Material and Process Engineering (SAMPE), Society for Applied Spectroscopy, Planetary Society