REVISION 2

SECTION 312 TECHNICAL MEMORANDA - PART II

March 1960 to December 1965

No.	Title	Author	Date	Class.
312-1	Optical Range Determination	Melbourne	3/21/60	U
312-2	Biasing of Lunar Trajectories (TM 312-34 is a sequel to this memo)	Barnes	3/22/60	U
312-3	A Set of Orbital Elements with Various Applications - Part II	Kizner	3/22/60	U
312-4	Discussion of Approximations Used in Doppler Tracking	Goff	3/23/60	U
312-5	Moon-to-Earth Trajectories	Clarke	3/23/60	U
312-6 STIM-3	Results of Participation of JPL Central Computing Facility in the Pioneer V Mission	Johnson	3/25/60	U
312-7	Differential Corrections for 1962 Mars Trajectory	Clarke	3/25/60	U
312-8	Characteristics of Sergeant Range Guidance Malfunctions	Eliason/ McCarty/Lang	3/28/60	C**
312-9	Terminal Guidance Analysis	Dinerstein	3/10/60	U
312-10	Basic Astronomical Information Pertaining to the Problem of Stellar Identification	Melbourne	4/13/60	U
312-11	A Note on Improvement of Orbit Determination with Three Doppler Stations	Cain	4/14/60	U
312-12	A Set of Orbital Elements with Various Applications - Part III	Kizner	4/19/60	U
312-13	Linear Differential Coefficients for a Circular Satellite Orbit	Pfeiffer	4/22/60	U
312-14	A Set of Orbital Elements with Various Applications - Part IV - Revised	Kizner	4/26/60	U
312-15	Development of "Out of Range" S Function Used in Sergeant Firing Tables	Johnson	4/28/60	U
312-16	Launch-On-Time Problem	Kohlhase	5/4/60	C**
	Addendum	Kohlhase	6/18/60	C**
312-17	Relativistic Doppler Shift	Gates	5/10/60	U
312-18	Effects of Guidance Platform Tumble at Launch-I	Hamilton	5/16/60	C**
312-19	A Method of Computing True Altitude and Sub-Probe Point	Dallas	5/17/60	U
312-20	A Method of Evaluating Lunar Retrorocket Performance	Palmiter	5/19/60	U

No.	Title	Author	Date	Class.
312-21	Application of 2-way Doppler Cycle Count to Detect Distance to Moon's Gravicenter	Hamilton	5/26/60	U
312-22	Preliminary Calculations for Determining the Doppler Accuracy Required for a Lunar Soft Landing	Kizner	7/8/60	U
312-23	Comments on the Effects of the Departure of Mars & Venus Trajectories from the Ecliptic on Geocentric Hyperbolic Velocities	Melbourne	6/1/60	U
312-24	Effect of Astronomical Unit on a Mars Trajectory	Cain	6/2/60	U
312-25	Sergeant Range Guidance Time of Flight Error and Terminal Phase Characteristics	Eliason	6/2/60	U
312-26	A Set of Orbital Elements with Various Applications - Part V	Kizner	7/28/60	U
312-27	A Proposed Method for Specification of Injection Accuracy	Pfeiffer	6/7/60	U
312-28	Station Tracking Equations Using Vector Notation	Dallas	6/9/60	U
	Errata	Dallas	12/21/60	U
312-29	Selenographic Coordinates	Kalensher	6/13/60	U
	Revision	Kalensher	n.d.	U
	Addendum	Kalensher	7/12/60	U
312-30	Sample Computation of Units of Variance for the Agena Guidance System, Modifications, I, II, III	Pfeiffer	6/16/60	C
	No copies on file--Copies may be obtained from IDC by using Re-order No.60-367			
312-31	A Note on the Method of Maximum Likelihood	Johnson	6/20/60	U
312-32	Report on Visit to JPL by F. Fulton and R. Mills of RCA Service Co., PAFB, Florida	Cain	6/28/60	U
312-33	The Motion of a Satellite Vehicle under Radial Thrust	Melbourne	6/30/60	U
312-34	Biasing of Lunar Trajectories	Noton	7/6/60	U
	(Sequel to TM 312-2)			
312-35	Early Orbit Determination (2-Body) using Doppler and Angles	Cain	7/6/60	U
312-36	Required Energy and Orientation of Hyperbolic Asymptote for 1962 Venus and Mars Trajectories	Sauer	7/7/60	U
312-37	The Orbit Determination Program as and Optimum Filter	Gates	7/20/60	U
312-38	A Discussion of Propellant Margin for a Multi-Stage Boost Vehicle	Pfeiffer	8/1/60	U

No.	Title	Author	Date	Class.
312-39	The Astronomical Unit and Space Probe Trajectories	Lorell	7/22/63	U
312-40	Lunar Soft Landing Velocity Requirements	Eckman	7/28/60	U
312-41	Calculation of Midcourse Velocity Increment and Spacecraft Maneuver Angles from Tracking Data	Flandro	7/29/60	U
	Revision	Flandro	8/17/60	U
312-42	Tracking and Orbit Determination Program for Rangers 1 and 2	Johnson	7/30/60	U
	Addendum	Johnson	12/28/60	U
312-43	Errors in the Ranger Telemetry System	Price	8/3/60	U
312-44	Biasing of Lunar Trajectories (Sequel to TM 312-2, 312-24)	Heftman	8/4/60	U
312-45	Selected Outputs of the Tracking Program	Anderson	8/15/60	U
	Addendum	Anderson	8/23/60	U
312-46	Transformations for Converting a Spherical Earth Plumbline Coordinate System into Ellipsoidal Earth Plumbline Coordinate System	Dallas	8/10/60	U
	Revision A	Dallas/ Kirhofer	6/14/61	U
	Addendum	Dallas	8/26/60	U
312-47	Determination of Predicted Impact Point Position in Target-Body Centered, Cartesian Coordinate System	Flandro	8/12/60	U
312-48	Trip Report to RCA Service Co., PAFB	Cain	8/18/60	U
312-49	The Three-Dimensional Optimum Thrust Equations of Power Limited Flight	Melbourne	9/6/60	U
312-50	A Refinement of the Dependent System of Differential Equations in the Tracking Program	Anderson	9/7/60	U
312-51	Extraecliptic Low Thrust Trajectories	Kalensher	9/7/60	U
312-52	The Effects of Lunar Gravity on Low Thrust Trajectories	Philippou	9/13/60	U
312-53	Calculation of Terminal Maneuver Turn Angles from Tracking Data	Flandro	9/6/60	U
	Addendum	Flandro	9/29/60	U
312-54	Trajectory Coordinate Systems and Notation Standards	Clarke	9/22/60	U

No.	Title	Author	Date	Class
312-55	An Analytic Method for Determining First Order Injection Errors	Pfeiffer	10/6/60	U
	Addendum	Gordon	2/6/61	U
312-56	Time	Clarke	10/7/60	U
312-57	Comments on Orbit Determination	Anderson	10/10/60	U
312-58	Inclusion of the Earth's Third Gravitational Harmonic in the Tracking Program	Anderson	10/12/60	U
312-59	Output Format for JPL's Space Trajectory Program. Coordinate Systems Description	Clarke	10/14/60	U
312-60	Varinaces of Mid-Course Maneuver Parameters	Feitis	11/28/60	U
312-61	Calculation of Mid-Course Velocity Corrections Which Satisfy Omni Antenna Constraints	Flandro	12/26/60	U
312-62	Calculation of Observables in the Tracking Program	Johnson	10/26/60	U
312-63	Trajectory Optimization and Prediction of Impact Point for Lunar Return Vehicle	Maloy	10/31/60	U
312-64	Determination of Elements of a Two-Body Orbit from Orbital Rate Data	Pfeiffer	10/31/60	U
312-65	Refraction & Vertical Direction Corrections for RA-1 and RA-2 Tracking Program	Cain	11/2/60	U
312-66	Passage Through a Planetary Atmosphere	Kohlhase	11/3/60	U
312-67	Motion of a Satellite Under the Influence of a Constant Normal Thrust	Lass/ Solloway	11/16/60	U
312-68	Contiguous Conic and Trajectory Calculations	Kizner	11/17/60	U
312-69	An Approximate Method from Computing rms Mid-Course Maneuver from Injection Conditions	Pfeiffer/ Gordon	12/2/60	U
312-70	Various Graphs, Sketches, and Other Information for Trajectories in the Vicinity of Venus (Reissue of IOM of 8/30/60)	Kohlhase	12/1/60	U
312-71	Corrections to Observables and Time Used in the Trajectory and Orbit Determination Programs due to Transmission Time	Johnson	12/5/60	U
312-72	Non-Linear Behavior of the Time-of-Flight to Closest Approach on Lunar and Interplanetary Trajectories	Maloy	12/9/60	U

No.	Title	Author	Date	Class.
312-73	Frequency Data for Ranger I Trajectory and Orbit Determination Programs	Johnson	12/22/60	U
	Addendum	Johnson	1/4/61	U
	Combined Errata 312-73 & 312-74	Johnson	2/3/61	U
312-74	Station Printouts for the Orbit Determination and Trajectory Programs	Johnson	12/29/60	U
312-75	Station Printouts on Trajectories for Tracking Purposes	Johnson	12/30/60	U
312-76	Interplanetary Trajectories and Payload Capabilities Advanced Propulsion Vehicles	Melbourne	1/5/61	U
312-77	Determination of the Mass of Venus	Feitis	1/5/61	U
312-78	Computation of Station View Regions	Anderson	1/23/61	U
312-79	Rudimentary Launch Guidance Methods for Deep Space Missions	Pfeiffer	1/31/61	U
312-80	Inversion of Symmetric Matrices	Lass/ Solloway	2/3/61	U
312-81	Design Specifications for Pre-Injection Standard Trajectories	Kirhofer	2/7/61	U
312-82	Results of Mariner A Injection Guidance Analysis	Dickinson	2/7/61	C**
312-83	A Thrust Program for Low Thrust Correction of Circular Satellite Orbits	Cutting	2/10/61	U
312-84	Some Estimation Problems in Orbit Determination	Gates	2/15/61	U
312-85	A Method of Data Compression	Anderson	2/20/61	U
312-86	The Motion of a Satellite Under the Influence of a Constant Normal Thrust	Lass/ Solloway	2/21/61	U
312-87	RA 1, 2 Engineering Telemetry Data Handling	Dickinson	2/27/61	U
312-88	Some Implications of the "Two-Shot" Planetary Program Policy	Hamilton	3/2/61	C**
	Addendum	Hamilton	4/20/61	U
312-89	Antenna Angular Rates at South Africa DSIF Station Part I	Johnson	3/3/61	U
312-90	Range Data in the Venus Trajectory	Anderson	3/21/61	U
312-91	Coriolis Effects Due to the Precession and Nutation of the Equinoxes	Clarke	3/27/61	U

No.	Title	Author	Date	Class.
312-92	Astrodynamical Constants	Dallas	5/1/61	U
312-93	Terminal and Entry Guidance (Part I)	Kohlhase	4/3/61	U
312-94	Doppler Shift	Lass/ Solloway	3/22/61	U
312-95	Tracking Lunar and Interplanetary Trajectories During the Decade 1960-1970	Johnson/ Clarke	4/13/61	U
312-96	A Statistical Problem Related to the Launching of a Missile	Lass/ Solloway	5/16/61	U
312-97	Corrected Time of Flight	Kizner/Gates	5/3/61	U
312-98	A Method of Matrix Inversion	Goff	5/2/61	U
312-99	An Iteration Procedure for Matrix Inversion	Goff	5/8/61	U
312-100	The Effect of Data Correlations and Biases on Least Squares Estimator	Anderson/ Cain	5/8/61	U
312-101	The Perturbations of a Hyperbolic Orbit by an Oblate Planet	Sauer	5/12/61	U
312-102	Computation of Orbital Elements from Cartesian (Space-Fixed) Coordinates	Cain	5/16/61	U
312-103	A Further Refinement of the Dependent System of Differential Equations in the Tracking Program	Anderson	5/16/61	U
312-104	An Algorithm for Matrix Inversion	Goff	5/19/61	U
312-105	Improvement of Mariner Orbit-Prior to Mid-Course Maneuver - Through Addition of Range Measurements *	Cain	5/22/61	U
312-106	The Inversion of Certain Mapping Matrices	Anderson	5/25/61	U
312-107	Computation of Angle Residuals in the Process of Orbit Determination	Anderson	6/1/61	U
312-108	Two-Dimensional Optimum Equations for a Power-Limited Rocket with a Constant Exhaust Velocity	Sauer	6/8/61	U
312-109	Error Analysis for Simple Terminal Guidance Scheme	Kohlhase	6/8/61	U
312-110	Geopotential Function for the Powered Flight Program	Cain	6/12/61	U
312-111	Atlas/Agena/Ranger Capability for Venus Missions	Pfeiffer	6/14/61	C**
312-112	Calculation of Eccentricity in Two-Body Orbits Given Two Positions and the Energy (Never completed or issued)	Cain	6/15/61	U

No.	Title	Author	Date	Class.
312-113	A Set of Orbital Parameters and Their Differential Corrections	Gates	6/20/61	U
312-114	"Simple" Coordinate Systems Used in Guidance Accuracy Studies	Gordon	6/23/61	U
312-115	A Technique for Powered Flight Orbit Determination	Pfeiffer	11/13/61	U
312-116	Mariner A Midcourse Analysis	Heftman	6/26/61	U
	Addendum			C**
312-117	Optimum Thrust Programs for Power Limited Propulsion Systems	Melbourne/ Sauer	7/5/61	U
312-118	An Alternative Method for the Determination of Elliptic and Hyperbolic Trajectories	Minovich	7/11/61	U
	Errata	Minovich	8/29/61	U
312-119	RA-3 Injection Accuracy	Gordon	7/10/61	C**
312-120	Two-Dimensional Interplanetary Transfer of a Vehicle Using a Small Constant Acceleration	Philippou	7/17/61	U
312-121	Statistical Methods Applied to Problems in Numerical Analysis	Kizner	8/1/61	U
312-122	Collision Lifetimes for Loosely Bound Satellite Orbits	Milder	7/18/61	U
	Addendum	Milder	n.d.	U
312-123	Properties of High Thrust Powered Trajectories from Circular Parking Orbits of Various Altitude	Clarke	7/24/61	U
312-124	De Rien. Quelquechose - On the Statistics of a Missile Launch (A One-Scene Play)	de Worm (Solloway)	7/26/61	U
312-125	Flight Schedule for Optimum Low-Thrust Martian Rendezvous Trajectories during the Period 1966-1980	Sauer	8/7/61	U
312-126	Post Flight Determination of Angular Rates of Ranger 1 at Separation	Schwartz	8/15/61	U
312-127	Some Properties of the Jacobi Integral	Kizner	8/22/61	U
	Revision--New Applications of the Jacobi Integral to Lunar and Interplanetary Trajectories	Kizner	8/29/61	U
312-128	A Procedure for Approximating the Statistical Description of Errors Resulting from Multiple Midcourse Maneuvers	Pfeiffer	8/18/61	U
312-129	An Elementary Derivation of the Variation of Orbital Elements	Lass/ Solloway	8/22/61	U

No.	Title	Author	Date	Class.
312-130	A Method for Determining Interplanetary Free-Fall Reconnaissance Trajectories	Minovich	8/23/61	U
312-131	The Effect of Physical Constants on the Interplanetary Equations of Motion	Anderson	8/23/61	U
312-132	Results of a Matrix Inversion Algorithm	Goff	8/28/61	U
312-133	The Determination of Miss Distances for Conic Trajectories Due to Velocity Errors	Minovich	8/28/61	U
312-134	Optimum Ranging Times During the Mariner Mission	Feitis	9/13/61	U
312-135	A Technique for Describing the Mid-Course Correction Capability for Ranger Missions	Pfeiffer	9/6/61	U
312-136	Data Editing: Rejection of Blunder Points by Coded Patterns	Rechert	9/19/61	U
312-137	Angle Through Which Velocity Vector Turns for an Impacting Vehicle	Gordon	9/25/61	U
312-138	An Energy Integral of Newtonian Motion for Non-Conservative Potential Fields	Lass/ Solloway	9/22/61	U
312-139	Mars Rendezvous Trajectories, 1970-1971, for Power Limited Propulsion Systems	Melbourne/ Sauer	10/3/61	U
312-140	Interplanetary Trajectory Optimization with Power Limited Propulsion Systems	Sauer/ Melbourne	10/4/61	U
312-141	Characteristics of Lunar and Interplanetary Trajectories	Gordon	10/6/61	U
312-142	A Summary of Ballistic Interplanetary Trajectories 1962-1967	Clarke	10/11/61	U
312-143	Selection of a Proportionality Coefficient in the Method of Steepest Descent	Anderson	10/17/61	U
312-144	Never issued			
312-145	Standard RA-3 Orbit Determination Error Analysis Cases	Cain	11/6/61	U
312-146	Doppler Accuracy Requirements for Ranger 3-5	Hamilton	11/13/61	U
312-147	A Study of "Limited Mid-Course Maneuvers" Using a Thrust Vector that is Restricted to Lie Along a Fixed Direction	Curkendall	11/7/61	U
312-148	Statistical Description of Mid-Course Maneuver Size in the Presence of Tracking Data	Anderson	11/21/61	U
312-149	Determination of Density Profile of Mars Atmosphers from Mariner B Capsule Flight Data (Preliminary Notes)	Bronstein/ Feitis/Holmes	11/27/61	U

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No.	Title	Author	Date	Class
312-150	On an Integral Arising in the Theory of the Mid-Course Maneuver	Lass/ Solloway	12/5/61	U
312-151	Radiation Pressure Perturbations of Interplanetary Trajectories	Melbourne	12/11/61	U
312-152	The Motion of a Satellite in the Restricted Three Body Problem	Lass	12/14/61	U
312-153	Planetary Approach Guidance Orbit Determination	Gates	12/14/61	U
312-154	The Combination of Statistical Estimates in Orbit Determination	Kizner	12/19/61	U
312-155	An Approximation to the Second Moment of Maneuver Errors	Gates	12/26/61	U
312-156	Estimation of Injection Conditions from Parking Orbit Tracking Data	Pfeiffer	12/26/61	U
312-157	Optimum Interplanetary Rendezvous Trajectories with Power-Limited Vehicles	Melbourne/ Sauer	1/2/62	U
312-158	The Special Motion of a Satellite in the Restricted Three Body Problem	Lass/ Philippou	1/3/62	U
312-159	A Criterion for How Many Parameters to Estimate	Kizner	1/4/62	U
312-160	Propulsion System Optimization of a Separately Powered Rocket	Sauer	1/5/62	U
	(Issued as TR 32-250--Never issued as a TM)			
312-161	Precession Rates of a Satellite Due to the J Term in the Gravity Field	Lorell	1/29/62	U
	Addendum 1 (Revised)	Lorell	2/5/62	U
312-162	Long Term Perturbations of a Moon Satellite by the Earth and Sun	Anderson	2/8/62	U
312-163	Semiemperical Formulas for Low Thrust Spiral Trajectory	Melbourne	2/2/62	U
	Never completed or issued			
312-164	Characteristics of Lunar Satellite Orbits	Lorell	2/6/62	U
	Re-Order No.62-37			
312-165	Precession Rates of an Artificial Satellite Due to Constant Radial, Circumferential, and Normal Acceleration	Lorell	2/15/62	U
312-166	Mariner-R Midcourse Analysis	Curkendall	3/1/62	U

SECTION 312 TM LIST

No.	Title	Author	Date	Class.
312-167	The Orbits of Periodic Comets	Porter	3/2/62	U
312-168	Equations Needed to Determine Permissible Aiming Zones at Venus in 1962	Bollman	3/1/62	U
312-169 ODAS-1	Ranger 4 Orbit Determination - Omission of Different Amounts of South Africa Data	Mathews/Cain	3/14/62	U
312-170	Determination of Planetary Atmospheric Density Capsule Flight Data - Part I	Feitis	3/14/62	U
312-171	Current Doppler Equations	Anderson/Thomas	3/14/62	U
	Addendum	Anderson/Thomas	3/26/62	U
312-172	The Effect of Trajectory Biasing and Midcourse Maneuver Reliability Upon the Probability of Planetary Capture for the 1964 Mars Flyby Mission	Kohlhase	3/15/62	U
312-173	Matrix Inversion Formulae	Solloway	3/16/62	U
312-174	Determination of a Planet Centered Orbit From Spacecraft Observables	Schwartz	7/26/62	U
312-175	Precession Rates of an Artificial Satellite Due to a Third Body Perturbation	Lorell	3/19/62	U
312-176	Lunar Satellite Orbits: Numerical Results for Close Orbits	Lorell	3/12/62	U
312-177	Guidance Requirement for the Establishment of Lunar Orbits	Sauer	3/22/62	U
	Revision	Sauer	5/22/62	U
312-178	The Minor Planets	Porter	3/28/62	U
312-179	Two Trajectory Computing Programs for Non-Vertical Impact Trajectories	Dallas	3/9/62	U
312-180	On the Visibility of a Spacecraft Using a Flat Mirror Reflecting Sunlight	Melbourne	4/2/62	U
312-181	Minimum Variance Estimation of Sequentially Correlated Parameters	Pfeiffer	4/3/62	U
	Revision	Pfeiffer	9/26/62	U
312-182	Mariner R ODP-TDEP: A Priori Weighting Coefficients	Hamilton	4/12/62	U
	Addendum/Errata	Young	12/20/63	U
	Addendum/Errata 2	Young	7/17/64	U
	Addendum/Errata 3	Young	6/8/65	U
312-183	On Combining Statistical Estimates - I	Solloway	4/12/62	U
312-184	The Optimization of a Constant Attitude Thrust Program for Power-Limited Vehicles	Melbourne/Sauer	4/25/62	U

No.	Title	Author	Date	Class.
312-185	Orbital Motion in the Theory of General Relativity	Anderson	4/27/62	U
312-186	Impact Probability of Booster State as a Function of Retro-Maneuver for a Nominal 66 hr. Vertically Impacting Lunar Trajectory	Gordon	5/1/62	U
312-187	A Study of Out-Plane Velocity Component in Venus Trajectories, I.--Heliocentric Tracking Sensitivity	Soong	5/7/62	U
312-188	Statistical Methods Applied to the Numerical Integration of Differential Equations	Kizner	5/7/62	U
	Revision 1	Kizner	6/7/62	U
312-189	Sensitivity of Slant Range Rate to Errors in Station Location--Geocentric Phase of a Venus Trajectory	Thomas	5/21/62	U
312-190	Three Body Perturbations of a Near Satellite for Small Inclination Orbits	Anderson	5/21/62	U
312-191	Evaluation of Rate Terms for Ecliptic Orbits	Lorell/ Anderson	5/23/62	U
	Revision 1	"	6/1/62	U
312-192 ODAS-3	Accuracy of Orbit Determination of a 24 Hour Satellite Transfer Ellipse Using Goldstone Only	Cain	5/28/62	U
312-193	A Technique for Optimum Final Value Control of Powered Flight Trajectories	Pfeiffer	5/24/62	U
	Revision 1	Pfeiffer	9/18/62	U
312-194	A Matrix Theorem and Corollary	Solloway	5/21/62	U
312-195	Mars and Venus Trajectories 1966-1972	Bollman	6/5/62	U
	Re-Order #62-506			
312-196 ODAS-5	Orbit Determination Accuracies for Apollo Earth-Moon Transfer Using DSIF Ranging	Hamilton/	6/6/62	U
312-197	Statistical Behavior and Joint Density Function of Out-plane Motion for a Circular Orbit	Soong	6/14/62	U
312-198	Never Issued			
312-199	Precession Rates of a Satellite Due to the Third and Fourth Harmonics	Lorell	6/19/62	U
312-200	Determination of the Orbit of a Probe with Respect to the Target Planet	Bronstein	6/22/62	U
312-201	Second Order Terms in the Averaged Perturbative Function	Anderson	6/25/62	U
312-202	Apollo Mission Cost Study	Barber	6/29/62	U

No.	Title	Author	Date	Class.
312-203	Combining Unbiased Estimates in Epoch Forwarding	Walsh	7/6/62	U
312-204	Aberration	Anderson	6/10/62	U
312-205	A Numerical Method for Finding Solutions of Nonlinear Equations and its Application to Kepler's Equation	Kizner	7/12/62	U
	Addendum 1	Kizner	7/20/62	U
312-206	Ranger 4 Orbit from Twin Falls Victory Ship Tracking	Cain	7/12/62	U
312-207	Approach Guidance Accuracy Studies	Kohlhase	7/10/62	U
312-208	Some Statistical Theory Applicable to the Problem of the Prevention of Biological Contamination of Space Exploration	Kizner	7/10/62	U
312-209	Planetary Satellite and Entry Missions (Never completed or issued)	Kohlhase	7/19/62	U
312-210	Optional Linear Estimates	Gates/Lass	7/25/62	U
	Addendum	Gates/Lass	9/25/62	U
312-211	AMR Data - Mariner R	Cain	7/26/62	U
312-212	Accuracies Associated with Reference Trajectories for Section 4.1 of the Approach Guidance Notebook	Gordon	8/1/62	U
312-213	Midcourse Guidance for a Lunar Impact Mission	Cutting/ Barnes	8/1/62	U
312-214	Twin Falls Victory Ship, Telemetry Ships, Pretoria and Ascension Locations - Mariner R	Cain	8/6/62	U
312-215	Effect of Gravity Field Uncertainties on Lunar Rendezvous	Lorell	7/31/62	U
	Errata--Missing Figures	Lorell	8/10/62	U
312-216	A Preliminary Study on the Use of Doppler Data to Determine Station Locations	Thomas	8/7/62	U
312-217 ODAS-4	Effect of Station Locations Re-establishing Post Midcourse Maneuver Orbit on a Lunar Flight	Cain	8/8/62	U
312-218	A Mapping of Orthogonal Vectors	Lass/Gates	8/8/62	U
312-219 ODAS-7	Early Ranging Versus Angles for Lunar Missions	Bremenkamp	8/8/62	U
312-220	Bounds on Transformed Covariance Matrices	Walsh	8/15/62	U
	Errata	Walsh	1/15/63	U
312-221	A Discussion of the Applicability of Various Restricted Midcourse Maneuver Schemes to the 1964 Mariner-M (Mars) Mission	Kohlhase	8/15/62	U

No.	Title	Author	Date	Class.
312-222	Second K-B Approximation to the Precession Rates of the Elements	Lorell/ Anderson	8/16/62	U
312-223	Differential Corrections for Elliptical Trajectories	Soong/ Bettis	8/17/62	U
312-224	Parameters Affecting Accuracy of Approach Guidance Orbit Determination for Sections 4 and 5 of the Approach Guidance Notebook	Gordon	8/16/62	U
	Addendum - Section 5.1 of Approach Guidance Notebook	Gordon	8/29/62	U
312-225	The Use of Near-Parabolic Orbits for Interplanetary Travel	Jordan	8/17/62	U
312-226	A Method for Inverting Certain Matrix Sums	Walsh	8/22/62	U
312-227	Three Methods for Defining Time-of-Flight Differential Corrections for Lunar and Interplanetary Trajectories	Thornton	8/24/62	U
312-228	Sinusoidally Correlated Data	Walsh	8/28/62	U
	Addendum/Errata	Walsh	1/15/63	U
312-229	Effect of Astronomical Unit Variation and Solar Radiation Pressure on Target Miss and Flight Time	Clarke	8/28/62	U
312-230	Characteristics of a Mars Orbiter for the 1967 Arrival Date (Type I Trajectory)	Kohlhase	8/29/62	U
	Replaced by TM 312-236			
312-231	Effect of Measurement Pattern and Maneuver Execution on Approach Guidance Orbit Determination Accuracy for Sections 6 and 7 of the Approach Guidance Notebook	Gordon	8/5/62	U
312-232	The Application of Lambert's Theorem to Time of Flight Problems for Elliptical Trajectories	Jordan	9/10/62	U
312-233	Ranger 4 Tumbling Analysis	Feitis	9/18/62	U
312-234	A New Perturbation Method for the Solution of Differential Equations	Kizner	9/28/62	U
312-235	The 6 x 6 U Matrix for Elliptical Trajectories	Soong	9/28/62	U
312-236	Part I: Characteristics of Various Polar Orbits Established from Type II Mars Trajectories Part II: The Effect of Guidance Errors and Physical and Physical-Constant Uncertainties upon the Precision Rates of Martian Satellite Orbits	Kohlhase	10/2/62	U
	Replaced by TM 312-236-a			
312-236-a	Planetary Satellite Orbits for Voyager Study Report	Kohlhase	10/17/62	U
312-237	Ranger 5, AMR and DSIF Coverage	Reuyl	10/8/62	U

No.	Title	Author	Date	Class.
312-238	A Computer Program for the Evaluation of Design Constraints for Near-Moon Trajectories Including Vidicon Performance (Program No.1057)	Fisher	10/4/62	U
312-239	Moon and Earth Trajectories TR No.32-412	Dallas	11/5/62	U
312-240	Effects of Approximations for Section 10.1 of the Approach Guidance Notebook	Gordon/ Piaggi	11/2/62	U
312-241	Station Look Angles for a Typical Ranger Launch	Reuyl	11/1/62	U
312-242	A Summary of the Mariner II Trajectory	Bollman	11/9/62	U
312-243	Mariner 1964 Performance Capability	Reuyl	11/19/62	U
312-244 ODAS-9	Apollo Early Orbit Multiple Station Ranging	Cain	11/21/62	U
312-245	Differential Corrections for Elliptical Trajectories: Numerical Results	Soong	11/21/62	U
312-246	A New Method for the Solution of Linear Differential Equations	Kizner	11/20/62	U
312-247	Periodic Parameters in Perturbed Orbits of Close Satellites	Lorell	11/27/62	U
312-248	Orbit Determination for a Lunar Satellite	Lorell	12/5/62	U
312-249	Description of Option I of the Planetary Orbiter/ Split-Capsule Study Program	Kohlhase	12/6/62	U
312-250	Mariner II Miss Error Due to Ephermeris Errors	Clarke	12/7/62	U
312-251	First and Second Order Differential Coefficients for Conic Sections	Gordon Chesne(De Silva)	12/10/62	U
312-252 ODAS-10	Pre-Maneuver Orbit Determination Accuracy for 66-Hour Lunar Trajectories at Northerly Lunar Declinations	Horstein	12/18/62 (7/18/63)	U
312-253 ODAS-11	Post-Maneuver Orbit Determination Accuracy for 66-Hour Lunar Trajectories	Horstein	12/13/62 (7/18/63)	U
312-254 ODAS-12	Orbit Determination Accuracy Information for Surveyor Specification Revision	Hamilton	12/13/62	U
312-255	Extension and Revision of J. Reichert's "Lunar Satellite Orbit Accuarcy Determination" Program No Copies Available--Withdrawn by Author (2/28/64)	Barber	12/13/62	U
312-256	An Optimum Decision Policy for Performing Multiple Guidance Corrections to an Orbit	Pfeiffer	12/14/62	U

No.	Title	Author	Date	Class
312-257	Injection and Station--Keeping Near the Translunar Libration Point	Kliore	12/17/62	U
312-258	Least Squares with Side Conditions	Cain	1/2/63	U
312-259 ODAS-8	Early Orbit with Added Range and/or Range Rate Stations	Mathews	1/4/63	U
312-260	The Apsidal Period for Polar Orbits	Lass	1/4/63	U
312-261	Occultation Time, A Definition and Partials	Cain/Mathews	1/4/63	U
312-262	A Consistent Procedure for Combining Pre-Midcourse and Post-Midcourse Tracking Data in Pre-Flight Analysis of Orbital Accuracy	Horstein	1/8/63	U
312-263	Determination of Tracking and Telemetry Coverage by the Atlantic Missile Range	Reuyl	1/11/63	U
	Revision	Reuyl	1/22/63	U
312-264	A General Study of Target Dispersions for Interplanetary and Lunar Missions	Soong	1/16/63	U
312-265	Velocity Increments Required for Retro into Circular Orbits About Various Bodies	Bollman	1/28/63	U
312-266	Variation of Parameters for Elliptic Orbits	Bettis	1/29/63	U
312-267	Translation from a Geodetic Datum to World Geodetic System	Cain	1/30/63	U
312-268	Trajectory and Maneuver Considerations Associated with Maintaining a 10^{-4} Probability of Impacting Mars for the Mariner C Mission	Kohlhase	1/30/63	U
	Addendum--"Agena Retro Velocity Requirements for the MA-C Mission"	Kohlhase	5/20/63	U
312-269	RA-6 Study; Some Preliminary Results	Curkendall	1/30/63	U
312-270	Mass of the Moon	Anderson	2/1/63	U
	Errata--Note on TM 312-270	Clarke	2/18/63	U
312-271	Complete Description of Planetary Orbiter Split Capsule Study Program (See Also TM 312-470)	Kohlhase	2/4/63	U
312-272 ODAS-13	Possible Statistics on Ranger Type Together Using Only One to Four Hours of Early Tracking Data	Sjogren	2/5/63	U
	Addendum	Sjogren	8/30/63	U
312-273 ODAS-14	Possible Statistics on Almost Direct Ascent Surveyor Type Trajectories Using One to Four Hours of Early Tracking Data	Sjogren	2/5/63	U
	Addendum	Sjogren	8/30/63	U
312-274	TAPP 2 Simulation of Lunar Midcourse Guidance	Cutting	1/25/63	U
312-275	Secondary Refraction Correction for Optical Data	Cain/Mathews	2/14/63	U

No.	Title	Author	Date	Class.
312-276	Realistic Midcourse Propellant Requirements for Ranger Spacecraft	Thornton	2/18/63	U
312-277	Some Handy Curves for Risk Takers	Hamilton	2/18/63	U
312-278	Comments on Attached TM 312-278 Radio Tracking of MA-2 and its Scientific Implications	Hamilton/ Trask	2/25/63	U
312-279	Application of Method of Averages to Obtain the Second Order Long-Period Perturbations in the Semi-Major Axis of the Satellite of an Oblate Planet	Lorell	2/28/63	U
312-280	The Determination, Analysis and Potentialities of Advanced Free-Fall Interplanetary Trajectories (Use Re-Order No.63-669)	Minovich	3/4/63	U
312-281	Effect of Some Midcourse Maneuver Mechanization Tolerances on the Precision of Lunar Impact	Bronstein/ Curkendall	2/25/63	U
312-282	Proposal for a Midcourse Maneuver Model	Curkendall	3/6/63	U
312-283	The Determination of a Density Function--An Exercise in the Application of Integral Transforms	Solloway	3/8/63	U
312-284	Average of Least Squares Parameters Estimates Over Several Experiments	Anderson	3/12/63	U
312-285	A Simplified Statistical Model for Missile Launching--I	Solloway	3/18/63	U
312-286	A Simplified Statistical Model for Missile Launching--II	Solloway	3/22/63	U
312-287	A Simplified Statistical Model for Missile Launching--III	Solloway	3/28/63	U
312-288 ODAS-15	Statistics on Direct Ascent Trajectories with and without Ascension Island Tracking	Sjogren	3/19/63	U
	Errata	Sjogren	4/1/63	U
	Addendum-- Direct Ascent Trajectory Study	Sjogren	8/22/63	U
312-289	Lunar Satellite Orbit Dterminations Study	Barber	3/21/63	U
	Revision			
	No copies available--TM and Revision Withdrawn by Author			
312-290	Some Results on the Release of an Entry Capsule During the Approach Phase of a 1969 Type II Mars Trajectory	Kohlhase	3/25/63	U
312-291	Dynamic Filtering	Solloway	3/26/63	U
312-292	Some Properties of Lunar Differential Corrections and Their Implications to Guidance Analysis	Piaggi	3/26/63	U

No.	Title	Author	Date	Class.
312-293	Type II Mars Trajectories 1964-1969	Bollman	3/26/63	U
312-294 ODAS-16	Injection Condition Evaluation for AC-2 and AC-3 Using One-Way and Two-Way Doppler	Bremenkamp	3/29/63	U
	Addendum	Bremenkamp	4/5/63	U
312-295	Derivation of a 2nd Order Approximate Relationship Between Injection True Anomaly and Path Angle for Conic Trajectories	Richard	4/3/63	U
	Addendum--On the Discrepancies Between the Results of Reference 1 and Reference 2	Richard	4/18/63	U
312-296	Optimal Policy	Barber	4/5/63	U
312-297	On the Calculation of Parking Orbit and Direct Ascent Lunar Trajectories	Richard	4/12/63	U
312-298	Statistical Formulas for the Mariner-C Orbit Determination Program	Anderson	4/12/63	U
312-299	On the Exact Relationship Between True Anomaly and Path Angle for Conic Trajectories	Solloway	4/15/63	U
312-300	Chebyshev Polynomials and the Solution of Linear Differential Equations	Kizner	4/17/63	U
312-301	On A Priori Statistics in Orbit Determination	Soong	4/18/63	U
312-302	Two Potentially Attractive Orbiter/Capsule Mission Flight Profiles for the 1969 Mars Voyager Study	Kohlhase	4/22/63	U
	Re-Order No.63-204			
312-303	Doppler Equations Including General Relativity Effects	Lass/Thomas	4/23/63	U
312-304	A Discussion of the Inter-Relationshp Between the Time of Flight and the Spatial Errors for Lunar Trajectories: The Regional Distribution	Curkendall	4/29/63	U
	Revision	Curkendall	7/25/63	U
312-305	Doppler Equations - Derivation in Geocentric Terms	C. Thornton	5/3/63	U
312-306	Voyager Satellite Orbit Determination Accuracy Using Earth-Based Doppler Radar - Part I - Classical Orbital Element and Position Accuracies	Barber	5/6/63	U
312-307	The Effect of Atmospheric Drag on the Lifetimes of Mars Orbiters	Kliore	5/6/63	U
312-308 ODAS-17	Range Data from Madrid, Canberra, and Perth for Mariner C	Mathews	5/7/63	U
312-309	A Coordinate Transformation Matrix	Solloway	5/9/63	U

No.	Title	Author	Date	Class.
312-310	Coordinate Transformation Matrices	Solloway	5/13/63	U
312-311	Some Examples of Use of TAPP 2	Cutting/ Oslund	5/27/63	U
312-312	Voyager Satellite Orbit Determination Accuracy Using Earth Based Doppler Radar - Part II - Inertial Position and Velocity Accuracies	Barber	5/17/63	U
312-313	On the Determination of Optimal Adaptive Control Policies; a simple example	Curkendall	5/13/63	U
312-314	Partial Derivative of Flight Time Via Brute Force	Liu	5/15/63	U
312-315	The Relationship Between Hour-Angle Elevation Azimuth and Station Latitude	Feitis	5/23/63	U
312-316	Estimation of a Drifting Parameter, and Effects of Performing a Maneuver, Applied to the Approach Guidance ODP	Gordon	5/28/63	U
312-317	Type II Mars Trajectory Plots for 1971	Bollman	6/3/63	U
312-318	Formulas Useful for Analyzing Orbits of Oblate Planet Satellites	Anderson/ Lorell	6/7/63	U
312-319	Pitch Jet Partials and Accelerations	Liu	6/5/63	U
312-320	An Integral Arising in the Method of Averages	Solloway	6/10/63	U
312-321	A Model for the Determination of the Optimal Camera Turn-On Time	Curkendall	6/13/63	U
312-322	Earth-Planet Parameters (Re-Order No.63-670)	Bollman	6/19/63	U
312-323	Relaxation Method Trajectory Computation	Cain	6/21/63	U
312-324	Theory of Orbit Determination - Part I Classical Methods	Anderson	6/24/63	U
312-325	Theory of Orbit Determination - Part II Estimation Formulas	Anderson	6/24/63	U
312-326	Altimeter Data as Observable	Liu	6/26/63	U
312-327	Some Very Simple Results Concerning the Optimum Spacing of Approach Guidance Measurements and Corrections	Kohlhase	6/27/63	U
312-328	Non-Accessible Maneuver Directions for MA-C	Gordon	7/1/63	U
312-329	A Method of Solution of a System of Linear Equation With a Symmetric Matrix	Gluckman	7/10/63	U

No.	Title	Author	Date	Class
312-330	Trajectory Characteristics - Ranger Block III	Bronstein/ Kirhofer/ Curkendall	7/17/63	U
312-331	Orbit Differential Corrections by Finite Perturbations	Cain	7/29/63	U
312-332	Minimum Launch Energy Mars-Earth and Venus-Earth Inter-Planetary Transfer Trajectories for 1970-1980 (Re-Order No. 63-646)	Minovich	8/5/63	U
312-333	Continuous Estimation of Sequentially Correlated Random Variables	Pfeiffer	8/6/63	U
	Addendum	Pfeiffer	9/26/63	U
312-334	Two Solutions to the Problem Proposed in "An Integral Arising in the Method of Averages" (Ref. 1)	Richard	8/6/63	U
312-335	Probability Study of Three Missiles Off Three Pads, Configuration I	Dahlgren	8/7/63	U
312-336	Probability Study of Three Missiles Off Three Pads, Configuration II	Dahlgren	8/7/63	U
312-337	Accuracy Considerations Affecting the Utility of a Gravitational Clinometer for Surveyor	Kliore	8/7/63	U
312-338	Improvement of Orbit Determination With Altimeter Data	Liu	8/12/63	U
312-339 ODAS-18	Analysis of the Value of Tracking Ship's Data in Determining a Translunar Orbit	Hamilton/ Cain	8/13/63	U
	Errata	"	8/16/63	U
312-340	Statistical Formulas for Orbit Determination Based on the Concept of Mapping all Information to Each New Epoch	Moyer	8/26/63	U
312-341	Low Thrust Guidance Methods } (Re-Order No.63-671)	Tapley	8/27/63	U
	Abstract } (Re-Order No.63-671)	Tapley	8/27/63	U
312-342	High Energy Earth to Mars and Return Trajectories (Re-Order No. 63-940)	Dallas	9/ /63	U
	Revision 1 (Re-Order No. 65-579)	Dallas	7/9/65	U
312-343	Mars and Venus Aiming Zones Which Avoid Occultation of Various Bodies (Use Re-Order No. 63-672)	Bollman	9/10/63	U
312-344	On the Maximum Principle and the Jacobi Condition	Melbourne	9/19/63	U
312-345	Secular Perturbation in the Mean Longitude	Anderson	9/9/63	U
312-346	Launch Windows and Parking Orbit Coast Times from AMR	Bollman	9/12/63	U
312-346-A	An Integrable Approximation for the Restricted Three-Body Problem with Earth-Moon Masses: The Two-Body Problem Relative to a Rotating Coordinate System	Broucke	1/13/64	U

No.	Title	Author	Date	Class.
312-347	Guidance Considerations for the 1967 Mariner B Mission to Mars	Kohlhase	9/16/63	U
312-348	A General Non-Linear Theory for Planetary Approach Guidance	Minovich	9/9/63	U
312-349	Descent From an Elliptical Orbit; Part I - Mechanics	Kliore	9/16/63	U
312-350	Long-Term Behavior of Artificial Satellite Orbits Due to Third-Body Perturbations	Williams	9/17/63	U
312-351	Minimum Launch Energy Earth-Mercury Trajectory for 1967 and 1968	Minovich	9/17/63	U
312-352	Integration of the General Bivariate Gaussian Distribution Over and Offset Circle	Gordon	9/18/63	U
	Addendum	Gordon	10/29/63	U
312-353	Probability Study of Four Missiles Off Two Pads	Dahlgren	9/25/63	U
312-354 ODAS-19	Improvement of Linearized Flight Time With Use of Altimeter Data	Liu	10/7/63	U
	Addendum	Liu	11/7/63	U
312-355	Surveyor Post-Landing Lighting	Thornton	10/9/63	U
312-356	A Technique for Computing Targeting Accuracy for Lunar Trajectories	Thornton	10/9/63	U
312-357	Theory of Optimum Control with the Presence of Noise	Lass	10/14/63	U
312-358	Graphic Error Analysis of Two Linear Equations in Two Unknowns	Cain	10/15/63	U
	Never completed or issued			
312-359	Statistical Formulas for Orbit Determination with Constraints Treated as Observables	Moyer	10/16/63	U
312-360	The Retro-Veolcity Requirements for the Ranger Block V Capsule	Goern/ Richard	10/23/63	U
	Addendum	Goern	10/31/63	U
312-361	Use of Artificial Satellite Tracking Data to Determine the Moon's Gravity Field	Lorell	10/29/63	U
312-362	A Synthesis of the Regularization Methods in the Plane Circular Restricted Three-Body Problem TM 312-393 is a Revision of this Tm and of TM 312-368	Broucke	11/13/63	U
312-363	A Qulaitative Description of the Re-Entry Dynamics of the Mariner B Capsule	Feitis	10/30/63	U
312-364	Mariner B Direct Descent Nomogram	Richard	11/6/63	U

No.	Title	Author	Date	Class.
312-365	Covariance Matrix of Spacecraft Selenocentric Cartesian Position and Velocity	C. Thornton	11/14/63	U
312-366	A General Study of Guidance Correction Requirements and Execution Errors for Lunar Missions	Pfeiffer/ Post	11/18/63	U
312-367	Direct Ascent Launch Calendar - Surveyor	Thornton	11/18/63	U
312-368	Regularization of the Restricted Three Body Problem TM 312-393 is a revision of this TM and of TM 312-362	Broucke	11/26/63	U
312-369	The Motion of a Spherical Capsule Entering an Isothermal Atmosphere	Feitis	11/27/63	U
312-370	Application of Optimum Numerical Differentiation to the Gradient Method	Kizner	11/21/63	U
312-371 ODAS-20	Post-Maneuver Orbit Determination Accuracy Study	Young	11/1/63	U
312-372	Accuracy of Orbit Determination of a Lunar Satellite Using Earth-Based Doppler Data	Barber	11/26/63	U
	No copies available--withdrawn by author			
312-373	A Method for Treating the Two-Point Boundary Value Problem	Melbourne	12/6/63	U
312-374	Some Graphical Information and Discussion Concerning the Block III Ranger Missions	Curkendall	12/9/63	U
312-375	Satellite Orbit Determination Accuracy Studies (SODAS) A Description of the Program and it's Current State	C. Thornton	12/5/63	U
312-376	Surveyor Data Control System Preliminary Study Report	Macomber	12/10/63	U
312-377	Descent From an Elliptical Orbit: Part II Error Analysis	Kliore	12/11/63	U
312-378	Mariner C Midcourse Analysis	Michel/ Gordon	12/13/63	U
	(Addendum--Issued as TM 312-414)	"	3/31/64	U
312-379	The Motion of a Spherical Capsule in an Atmosphere with a Temperature Gradient	Feitis	12/12/63	U
312-380	Different Corrections for a Typical Ranger Block V Trajectory	Clarke	12/16/63	U
312-381	Monte Carlo Simulation of Multiple Maneuvers	Cutting	12/31/63	U
312-382	Mission Analysis 5 - Setting of Ranger Block III TV Back-up Turn-On Times	Bronstein	12/30/63	U

No.	Title	Author	Date	Class.
312-383	Planetary Approach and Terminal Orbit Determination Using Earth-Based Radio Tracking	Soong	1/10/64	U
	Errata/Supplement (IOM 312.7-28)	Michel	2/26/64	U
	Addendum 1 - Partial Derivatives of the Coordinates of the Earth & the Probe with Respect to Time to Perigee Passage for Soong's Planetary Approach	Michel	7/7/64	U
312-384	Preliminary Specification of ODP Control Logic	Anderson	1/8/64	U
312-385 ODAS-20	Uncertainty in Lunar Pass Angle This memo is an Addendum to TM 312-371	Vegos	1/10/64	U
312-386	Planetary Orbit Determination Capabilities Report	Bremencamp	1/16/64	U
312-387	Effects of Physical Constant Errors on a Mars 1969 Voyager Mission (Not issued as of January 1966)	Bremencamp	1/16/64	U
312-388	Solar and Lunar Constraints in the 50 Parameter ODP	Moyer	1/17/64	U
312-389	Equations of Motion for the Plane Circular Restricted Three Body Problem	Broucke	1/28/64	U
312-390 ODAS-22	Ranger Block III Pre-Midcourse Orbit Determination Accuracy Study	Young	1/31/64	U
312-391	Estimation of Midcourse Maneuver From Simultaneous Reduction of Ranger 6 Tracking Data	Moyer	2/7/64	U
312-392	Computation of Target Centered Covariance Matrices	Anderson/Null	2/7/64	U
312-393	Regularization of the Plane Restricted Three-Body Problem (Fision of the (rev.) TM 312-362 & TM 312-368)	Broucke	2/10/64	U
312-394	Various Tradeoffs Involved in Selecting the Earth-to-Mars Trajectories for a Direct Ascent Mission During the 66-67 Opportunity	Kohlhase	3/3/64	U
	Addendum 1	Kohlhase	4/8/64	U
312-395 ODAS-23	S - Band System Capability	Vegos	2/21/64	U
312-396	Relationship Between Surveyor Spacecraft Weight and Launch Window/Period	Thornton	2/25/64	U
	Addendum 1	Thornton	4/16/64	U
312-397	Estimation of Ranger VI Midcourse Maneuver	Moyer	2/25/64	U
312-398	Probabilities Associated with Certain Events for the Mariner C Mission	Gordon	2/27/64	U

No.	Title	Author	Date	Class.
312-399	Doppler Shift for Two Bodies in Circular Motion with Applications to Planetary Missions	Anderson	3/2/64	U
312-400	Tilted Center Line Analysis for Mariner C Wide Angle Sensor	Sturms	3/5/64	U
312-401	Two Approaches to a Satellite Orbit Determination Problem	Barber	3/9/64	U
312-402	The Effect of Atmospheric Refraction on the Doppler Tracking Signal of a Spacecraft Occulting a Planet	Kliore	3/12/64	U
312-403 ODAS-24	Surveyor Direct Ascent Pre-Midcourse Orbit Determination Accuracy Study	George/Miller	3/16/64	U
	Addendum 1--Position & Velocity Uncertainties at Injection for Direct Ascent Trajectories	Miller/George	3/15/65	U
	Addendum 2--Analysis of the Tradeoff Between Johannesburg & Madrid Tracking for Surveyor Direct Ascent Launches	Kepner/Miller	6/17/65	U
312-404	Refraction of Radio Signal During Occultation Due to a Planetary Atmosphere	Cain	2/16/64	U
312-405 ODAS-25	Pre-Maneuver Tracking Accuracy Studies for Mariner C	Mathews	3/18/64	U
312-406	Johannesburg Angular Rate Contours for Mariner C	Tito	3/19/64	U
312-407	Standard Nomenclature for Orbit Determination	Anderson/Warner Peabody	3/19/64	U
312-408	A Statistical Analysis of a Multiple-Purpose Guidance System for Space Mission	Thornton	3/24/64	U
312-409	Theoretical Basis of the JPL Orbit Determination Program (Re-order No. 64-311)	Anderson	3/24/64	U
312-410	A Probability Distribution Associated with a Multiple Midcourse Maneuver	Solloway	3/25/64	U
312-411	Surveyor Vertical Lunar Landing Locations for 1965 and 1966	Brenkle	3/26/64	U
312-412 ODAS-26	Surveyor Post-Midcourse Maneuver Orbit Determination Accuracy Study	Notkoff	3/30/64	U
	Addendum 1--See TM 312-553			
	Addendum 2--Effect of Changing Uncertainty Assumptions on OD Accuracies	Miller/Notkoff	10/22/65	U
312-413	Singularities for Type II Trajectories - Mariner C Examples	Michel	3/31/64	U

No.	Title	Author	Date	Class.
312-414	Addendum to TM 312-378, "MA-C Midcourse Analysis"	Michel	3/31/64	U
312-415	A Launch Probability Study - Surveyor	Solloway	3/31/64	U
312-416	RMS Midcourse Maneuver for 66 hour and 90 hour Surveyor Direct Ascent Trajectories	Elconin	4/2/64	U
312-417	Statistical Test for an n-Dimension Normal Distribution	Vegos	4/6/64	U
312-418 ODAS-27	Redetermination of the Mariner C Orbit After a Maneuver	Cary	4/8/64	U
312-419	Derivation of Relativistic Equations of Motion	Anderson	4/10/64	U
312-420	Minimization of Costs of an Electrical Power Distribution Network: A Multistage Decision Process	Barber	4/15/64	U
312-421 ODAS-28	Variations of Certain Lunar Impact Parameters as a Function of Data Biases	Rice	4/15/64	U
312-422	Phase Coherent Reception of a Accelerometer Biased Telemetry Carrier from a Capsule Undergoing High Accerlrations	McGlinchey	4/15/64	U
312-423	Report, "A Study of the Effect of Possible Locations for a DSIF Station to Replace Johannesburg," April 15, 1964, by M. S. Johnson and J. S. Reuyl	Reuyl/Johnson	4/21/64	U
312-424	Triangularization of Normal Matrices	Cain	4/24/64	U
312-425	RA-6 Maneuver Execution Errors	Curkendall	4/24/64	U
312-426	The Statistics of Comets (IOM of March 7, 1962)	Porter	4/29/64	U
312-427	Preliminary Monte Carlo Analysis of Surveyor I Retro Problem (This memo is obsolete--see TM 312-437)	Wagner	4/30/64	U
312-428	Velocity, Acceleration and Jerk in Encounter Trajectories	Anderson	4/30/64	U
312-429	Probability of Agena Stage Impacting Mars	Gordon	5/1/64	U
312-430	OD Starter Program	Liu	5/1/64	U
312-431	Mathematical Representation and Simulation of Unmanned Interplanetary Spacecraft Systems	R. Moyer	5/5/64	U
312-432	Mariner Mars 1964 Launch Probability Study	Billy	5/22/64	U
312-433	Viable Organisms in A/C Gas	Gordon	5/18/64	U

No.	Title	Author	Date	Class.
312-434	A Study of Guidance Correction Requirements and Execution Errors for Direct Ascent Lunar Missions	Elconin	5/19/64	U
	Addendum 1	Elconin	6/10/64	U
312-435	Surveyor Direct Ascent Launch Calendar for 1968 and 1969	O'Neil	5/22/64	U
312-436	Error Curves for Lanczos' "Selected Points" Method	Kizner	5/25/64	U
	Addendum 1 -- Asymptotic Formula Using the Legendre Zeroes	Kizner	6/10/64	U
312-437	Monte Carlo Analysis of Surveyor I Retro Problem	Wagner	5/25/64	U
312-438	A Method of Analysis of Spacecraft Turns Using Two-Way Doppler Measurements	Rice	5/28/64	U
312-439	An IBM 7094 Fortran Computer Program to Synthesize Two-Way Doppler Data Simulating Spacecraft Turns	Rice	5/28/64	U
312-440	An IBM 7094 Fortran Computer Program to Analyze Two-Way Doppler Data During Spacecraft Turns	Rice	5/28/64	U
312-441	Success Probabilities of Mariner C Mission Objectives	Billy	6/1/64	U
312-442	Statistical Formulas for DPODP	Moyer	6/2/64	U
312-443	On a Standardized Method of Reckoning Longitude on the Various Celestial Bodies	Richard	6/16/64	U
312-444 ODAS-29	A/C-2 Tracking Accuracy Study	Miller	6/4/64	U
312-445	A Simplified Study of Execution Errors for a Second Mariner C Midcourse Maneuver	Michel	6/11/64	U
312-446 ODAS-30	Least Squares Estimation of Martian Atmospheric Parameters Using Range Rate Data fron an Entry Capsule	Cary	6/15/64	U
312-447	Dynamics of the Midcourse Motor Droppings for Ranger and Mariner	Bollman	6/16/64	U
312-448	A Technique for Reducing the Ranger Midcourse Execution Errors	Curkendall	6/23/64	U
312-449	Launch Windows for Interplanetary Trajectories	Richard	6/23/64	U
312-450	Tracking Station Coordinate System	Cain	6/24/64	U
312-451 ODAS-31	Orbit Determination Accuracy for 1966 Direct Ascent Mars Trajectories Pre-Maneuver Phase	Cary	6/29/64	U
312-452	Relative Value of the Numbers of Windows and the Total Number of Minutes in a Direct Ascent Lunar Launch Period (Never Issued)	Thornton	6/29/64	U

No.	Title	Author	Date	Class.
312-453 ODAS-32	Orbit Determination Accuracy for MA-C (Pre-Midcourse)	Null	7/2/64	U
312-454	On the Application of a Midcourse Impulse to Alter Planet Arrival Geometry	Bollman	7/7/64	U
312-455	A Mean Time Problem	Lass/Lorell	7/7/64	U
312-456	A Mean Time Problem-II	Lass/Lorell	7/7/64	U
312-457 ODAS-33	A Sample of Post-Flight Orbit Determination Accuracies for SU-IB Missions	Trask/George	7/8/64	U
312-458	Investigation of the Required Ranger Terminal Maneuver Turns for all Possible Impact Locations	Curkendall	7/8/64	U
312-459	Refraction of a Radio Signal During Occultation Due to a Planetary Atmosphere--Part II (Never Issued see TM 312-533)	Cain	7/14/64	U
312-460	Ranger 7 Constraint and Capability Plots for the July 1964 Launch Period	Curkendall/ Piaggi	7/17/64	U
312-461	On the Possible Visual Obscurity of Canopus Due to the Comet Tuttle in 1967	Bollman	7/21/64	U
312-462	Surveyor Landing Site Dispersions (Never issued see TM 312-476)	Pfeiffer/ Wagner	7/23/64	U
312-463	Description of Approach Trajectory and Maneuver Model	Piaggi/Kirhofer	7/24/64	U
312-464	Trajectory Parameter Display for Mars 1966-67 Opportunity	Kohlhase	8/1/64	U
312-465	Variation of Midcourse Maneuver Requirements with Injection Energy for Centaur Direct Ascent Trajectories	Elconin/ Kohlhase	8/3/64	U
312-466 ODAS-34	Orbit Determination Accuracy for Mariner 64 (PRE-M/C) for Every Day in the Launch Period	Null	8/6/64	U
312-467	Equations of Motion for Non-Spherical Earth and Moon	Sturms	8/10/64	U
312-468	Surveyor Location Accuracy Using Earth-Based Tracking: Preliminary Results for July 1965 Launch Period	Elconin	8/11/64	U
312-469	Application of Kalman Filtering to a Discrete Linear System with Addative, Correlated Noise	Joyce	8/13/64	U
312-470	Description of All Changes and/or Additions to the Planetary Orbiter Split Capsule Study Program Since the Publication of Reference A (TM 312-271)	Kohlhase	8/18/64	U

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312-471	The Generalized Problem of m Missiles off one Pad	Dahlgren	8/24/64	U
312-472	Partial Derivatives of Occultation Data	Liu	9/1/64	U
312-473	The Passage of Mariners 3 & 4 Through Major Meteor Streams	Bollman	9/2/64	U
312-474	Some Numerical Results on Lunar Approach Orbit Determination Using Earth-Based Radio Tracking	Piaggi	9/4/64	U
312-475	The Optimum Number of Vehicle-Spacecraft to Program for a Given Launch Period, and Comparison of Different Boost Vehicles	Dahlgren	9/8/64	U
312-476	Preliminary Analysis of Surveyor Landing Site Dispersions	Wagner	9/8/64	U
312-477	Partial Derivatives for VARY Subroutine of DPODP	Moyer	9/11/64	U
	Addendum 1--Changes to Finite Burn Midcourse Maneuver Model	Moyer	3/10/65	U
	Addendum 2--Modified Method of Obtaining U & V Matrices & Addition of Parameters Affecting $T = E \cdot T - U \cdot T$ to Subroutine VARY of DPODP	Moyer	7/1/6	U
312-478	Sensitivity Study of Low-Thrust Escape Spiral Trajectories	Lewallen	9/10/64	U
312-479	Mars 1969 Orbital Payloads Utilizing Atlas/Centaur Launch Vehicle	Bollman	9/14/64	U
312-480	Some Comments on Fundamental Constants in the ODP	Anderson	9/16/64	U
312-481	(1) A Theorem on Positive Definite Matrices (2) An Entry in the Journal of Negative Results	Solloway	9/17/64	U
312-482	A Fundamental Theorem on Extremal Problems with Constraints	Pfeiffer	9/17/64	U
312-483	The Numerical Solution of Nonlinear Equations	Kizner	9/21/64	U
312-484	Non-Gravitational Orbital Perturbations	Flandro	9/22/64	U
312-485	A Dynamic Programming Formulation of Multiple Trajectory Corrections	Barber	9/22/64	U
312-486	Improved Mission Reliability - Through Quality or Quantity?	Billy	9/30/64	U
312-487	A Simplified Error Analysis for Trajectories Encountering an Intervening Body	Card	10/9/64	U

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312-488	Trajectory Characteristics: One-Way Transfers to Mercury and Jupiter (Re-Order No. 64-517)	Feitis	9/7/64	U
312-489	Some Surveyor Mission Success Considerations	Wagner	10/12/64	U
312-490	Formulas for Harmonic Terms in Orbiter Lifetime Computation	Lorell	10/15/64	U
312-491	Ionosphere Model: 3-Section, Step Function Second Derivative	Cain	10/15/64	U
312-493	Ranger VII Maneuver Execution Errors	Piaggi	10/22/64	U
312-494	A Monte Carlo Study of Second Midcourse Maneuver for Mariner C	Card	10/26/64	U
312-495	First and Second-Sum Numerical Integration Formulas	Anderson	10/27/64	U
312-496	Four Programs for the Study of Third-Body Perturbations, and Applications to Mars Orbiter Lifetime Determination	Broucke	11/2/64	U
312-497	A Dynamic Programming Technique for the Optimum Distribution of Units of Variance Among Components of a Guidance System	Curkendall	11/9/64	U
312-498	A General Fortran Differential Equation Integration Package (AMRK)	Broucke	11/1/64	U
312-499	An Application of Low Thrust Guidance Methods	Jordan	11/11/64	U
312-500	Application of KORTEWEG's Method to Study the Stability of Moon Orbiters	Broucke	11/1/64	U
312-501 ODAS-35	Preliminary Investigation of Three Trajectories for the 1969 Mars Orbiter Mission	Grimes	11/19/64	U
312-502	Type II Mars Trajectory Plots 1973-75-77 (Re-order No. 64-833)	Bollman	11/23/64	U
312-503	AMOS-1. Allocation of Project Resources Between Quality Assurance and Launch Spacecraft	Barber	11/24/64	U
312-504	Ray Tracing Formulae for the 1620 Computer	Cain	11/25/64	U
312-505	Trajectory Analysis of a 1970 Mission to Mercury via a Close Encounter with Venus (Re-order No. 64-649)	Cutting/Sturms	12/7/64	U
312-506	Tracking Coverage as a Function of Spacecraft Attitude for the Apollo Mission (assuming the proposed M.S.F.N. X-Y antenna mount with east-west orientation for Goldstone, Madrid, and Canberra)	Wallace	11/30/64	U

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312-507	A Note on Minimum Extremals in the Calculus of Variations	Lass	12/1/64	U
312-508	Project for a Section 312-1620 Library	Broucke	12/4/64	U
312-509	Ephemeris Corrections for DPODP	Moyer	12/18/64	U
312-510	Some Considerations in Selecting Ranger 8 and 9 Aiming Points in Selected Surveyor Landing Areas	McGlinchey	12/18/64	U
312-511	The Three-Dimensional Restricted Three-Body Problem	Broucke	12/29/64	U
312-512	Effects of Moon's Gravitational Harmonics on a Lunar Orbiter	Sturms	12/31/64	U
312-513	Information Transmission from a Martian Lander to a Martian Relay Communications Satellite Part I - Circular Equatorial Orbits TM 312-528 is Part II TM 312-538 is Part III TM 312-549 is Part IV	Bourke	1/4/65	U
312-514	Utilizing Large Planetary Perturbations for the Design of Deep-Space, Solar-Probe, and Out-of-Elliptic Trajectories	Minovitch	2/15/65	U
312-515	A Critique of a Paper by D. O. Muhleman and P. Reichley on "Effects of General Relativity on Planetary Radar Distance Measurements"	Lass	1/4/65	U
312-516	Astrodynamical Results from the Radio Tracking of the Mariner II and Ranger Missions (Re-order No. 65-415)	Sjogren/ Trask	3/15/65	U
312-517	Radio Tracking of Mariner and Ranger Missions and its Implications (Re-order No. 65-418)	Sjogren/	3/15/65	U
312-518 ODAS-36	ETR Ship Support for Predicts and Tracking Data During Surveyor Flights	Miller	1/8/65	U
	Part B	Miller	9/20/65	U
312-519	Some Probabilities Associated with Lunar Direct Ascent Trajectories	Macomber	1/26/65	U
312-520	Never Issued			
312-521 ODAS-37	Late Maneuver Orbit Redetermination of Three Trajectories for 1969 Mars Lander Mission	Russell	1/13/65	U
312-522	Calculation of the Uncertainty in Unbraked Impact Velocity	Notkoff	1/13/65	U
312-523	Basic Principles of Linear Programming and Possible Applications in Space Research	Broucke	1/25/65	U

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312-524	Model Ionosphere and Phase Path Errors	Efron	1/27/65	U
312-525	The Numerical Evaluation of Fourier Series	Kizner	2/1/65	U
312-526	Correction of Optical Observations for Processing by the Mariner Orbit Determination Program	Anderson	2/1/65	U
312-527	On the Comparison of the Kalman Filter and the Continuous Sequential Estimator	Pfeiffer	2/2/65	U
312-528	Information Transmission from a Martian Lander to a Martian Relay Communications Satellite Part II - Elliptical One Day Equatorial Orbits	Bourke	2/4/65	U
312-529	Light Time Solution for DPODP	Moyer	2/5/65	U
	Addendum 1 - Reduction in Minimum Number of Ephemeris Interpolation for DPODP Light Time Solution	Moyer	3/24/65	U
312-530	An Analytical Approach to Pre-Mission Orbit Determination Studies	Light	2/12/65	U
312-531	The Application of Redundancy to Improve System Reliability	Billy	2/9/65	U
312-532	Never Issued			
312-533	Refraction of a Radio Signal During Occultation Due to a Planetary Atmosphere - Part II	Cain	2/17/65	U
312-534	Preliminary Pioneer Trajectory Characteristics	Wallace	2/16/65	U
312-535	A Formulation of the Variation of Parameter Equations for Rectangular Elements	Kizner	2/22/65	U
	Addendum 1	Kizner	3/18/65	U
312-536	Aspects of Surveyor I Landing Accuracy and Midcourse Requirements	Wagner	2/25/65	U
312-537	Nutation Velocities in Trajectory and Orbit Determination Computations	Cain	2/25/65	U
312-538	Information Transmission from a Martian Relay to a Martian Relay Communications Satellite Part III - Calculation of the Fraction of Time a Lander and Orbiter are Intervisible	Bourke	3/3/65	U
312-539	One Way Doppler Turn-On Transients - MA-4 Data	Cain	3/4/65	U
312-540	Integration Study for a Typical Mariner C Trajectory	Sturms	3/4/65	U
312-541	Mariner IV Post-encounter Trajectory	Tito	3/30/65	U

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312-542	A Dynamic Programming Simulation of Spacecraft Mission Planning	Billy	4/1/65	U
312-543	Some Preflight Estimates of Ascension Island View Period Dispersions Based on Surveyor Direct Ascent Trajectory Characteristics	McGlinchey	4/8/65	U
312-544	Effect of Non-Gravitational Perturbations on Minimum Energy Interplanetary Transfer-Orbits	Flandro	4/5/65	U
312-545	Truncation Error in Doppler Estimate Program	Russell	4/5/65	U
312-546	Application of the Continuous Sequential Estimation Technique to Some Orbit Determination Problems	Pfeiffer	4/6/65	U
312-547	One-Way Doppler Derivations	Russell	4/12/65	U
312-548	Relativistic Equations of Motion	Moyer	5/65	U
312-549	Information Transmission from a Martian Lander to a Martian Relay Communications Satellite Part IV - Viewing Fractions and Ranges for Arbitrary Orbits and their Communications Implications	Bourke	4/19/65	U
312-550	Ray-Path Through an Ionosphere	Liu	4/19/65	U
312-551	Synthesis of a Flight Time vs. Launch Date, Energy Contour Plot	Jordan	4/20/65	U
312-552	Orbit Redetermination Following the First Midcourse Maneuver	Light	5/3/65	U
312-553	Surveyor Orbit Determination Accuracy Study for the 62.5-Hour Trajectory - Post Midcourse Addendum 1 to ODAS-26 (TM 312-412)	Kepner	5/4/65	U
312-554	Histogram of Times-Eight Doppler Residuals	Cain	5/6/65	U
312-555	Accuracy of Weight Model Used to Describe Computer Error in Ranger Orbit Determination Program	Young	5/11/65	U
312-556 ODAS-38	Surveyor Attitude Control Gas Jet Effects on Orbit Determination Accuracy	Kepner	5/12/65	U
312-557	The Solution of Abel's Integral Equation and Determination of Ionospheric Electron Density Distribution	Efron	5/12/65	U
312-558	Surveyor Block I Mission Success Evaluation	Chamberlain	5/19/65	U
	Revision 1	Chamberlain	6/21/65	U
312-559	Guidance Policy Analysis for the Multiple Impulse Correction of the Orbit of a Spacecraft (Re-order 65-290)	Curkendall/	5/19/65	U

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312-560	Slant Range Acceleration - Revision 1	Wallace	6/4/65	U
312-561	Semi-Major Axis Constraint in the SPODP Ephemeris Correction	Anderson/ Warner	6/7/65	U
312-562	Preliminary Evaluation of Sensitivity Coefficients for Selenodesy Experiment	Lorell	6/7/65	U
312-563	AMOS 2 - A Basic Program Planning Analysis	Billy	6/10/65	U
312-564	The Effect of Integration Step Size on the SPODP Running Time and Resulting Changes in Certain B-Plane Parameters	Young	6/10/65	U
312-565A	A Simple Comparison of Alternate Ways of Processing Continuously-Counted Doppler Data	Pfeiffer	6/29/65	U
312-565	Slant Range Rate and Slant Range Acceleration for Apollo Trajectories During Translunar Injection	Farless	6/22/65	U
312-566 ODAS-39	Orbit Determination Accuracies for the Pioneer A-77 Trajectory	Grimes	6/23/65	U
	Addendum 1 - Uncertainty in C_3 at Injection for Pioneer Trajectories	Miller	10/26/65	U
312-567	1620 Program for Computing "Effective Variance" for Weighting Data	Young	6/28/65	U
312-568	Trajectory Design for the Mariner 1964 Mission	Tito	7/1/65	U
312-569	Solution of Lunar Gravity Harmonics for a Simulated Orbit	Sturms	7/2/65	U
312-570	Timekeeping and the Orbit Determination Process	Anderson/ Muller	7/6/65	U
312-571	Surveyor Direct Ascent Landing Envelopes and Lighting Conditions (September '65 - December '68) Re-order No. 65-534	O'Neil	7/14/65	U
312-572 ODAS-40	Orbit Determination in the Presence of Low Thrust Forces	Liu	7/16/65	U
	Addendum 1	Liu	8/3/65	U
312-573	Doppler Truncation Error for Apollo Trajectories	Curkendall	7/26/65	U
312-574	Regularization of Non-Conservative Systems	Broucke	7/27/65	U
312-575	Tracking Station Coverage for the Near-Earth Phase of the AC-6 Trajectories	Travers	7/28/65	U
312-576	AMOS 3, Bayesian Analysis of A Priori Estimation	Billy	8/3/65	U
312-577	Gravity Turn Trajectory Analysis	Schleuter	8/6/65	U

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312-578 DAS-41	Efficiency of Angle Data in a Lunar Mission Under Guaranteed DSIF Accuracy Assumptions	Muller	8/10/65	U
312-579	The Effect of Sample-Rate on RMS Estimation Errors: A One-Dimensional Example	Curkendall	8/18/65	U
	Errata and Addendum	Curkendall	9/7/65	U
312-580	Effect of Retro-Maneuver Upon Doppler Predicts	Liu	8/10/65	U
312-581	Slant Range Rate and Slant Range Acceleration for Apollo Re-entry Trajectories	Farless	8/12/65	U
312-582	Accuracy in the Determination of Lunar Transponder Location from Post-Arrival Tracking	Elconin	8/30/65	U
312-583	Target-Centered Covariance Matrices	Russell	8/17/65	U
	Errata	Russell	10/29/65	U
312-584	Agena Guidance Performance	Ball	8/17/65	U
312-585	A Generalization of the Newton Raphson Method and its Application to the Two Point Boundary Value Problem	Kizner	8/19/65	U
312-586	Slant Range Rate and Slant Range Acceleration During Various Apollo Mission Phases	Farless	8/24/65	U
312-587	An Example of State Estimation for Non-Linear Stochastic Systems	Joyce	8/30/65	U
312-588	Motion of Earth-Moon Barycenter	Sturms	8/31/65	U
312-589	Trajectory and Guidance for Powered Soft Landing Through an Atmosphere	Gordon	9/2/65	U
312-590	Injection Accuracy Characteristics for Lunar Missions	Thornton	9/9/65	U
312-591	Orbit Perturbations for a Mars Satellite	Richard	9/7/65	U
312-592	Additional Formulas Useful in Analyzing Orbits of Oblate Planet Satellites	Russell	9/8/65	U
312-593	Apollo Lunar Mission Profile Re-order No. 65-788	Farless	9/13/65	U
312-594	The Injection 1-Sigma Position and Velocity Uncertainty Effects on the Tracking Station Ability to Acquire the Spacecraft Over the First Pass	Ball	9/10/65	U
312-595	On the Solution of Covariance Difference Equations by Means of Linear Decomposition and z-transform	Nishimura	9/15/65	U
312-596	Other Approaches to the Soft-Landing Problem	Schlueter	9/16/65	U

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No.	Title	Author	Date	Class.
312-597 ODAS-42	Selenocentric Uncertainty in the Velocity Vector in a Direction Tangential to the Velocity Vector and Normal to the Velocity Vector	Kepner/ Miller/ Notkoff	10/7/65	U
312-598	A/C-3 Data Analysis	Miller	9/29/65	U
312-599	Improvement in the SPODP Two-Way Doppler Formulas	Anderson/ Warner	10/13/65	U
312-600	Propagation of Conditional Density Functions in Non-Linear Systems; A Translation into the Vernacular of the Work of Kushner	Joyce	10/14/65	U
312-601	The Effect of Sample-Rate on RMS Estimation Errors II: Exponentially Correlated Noise	Curkendall	10/15/65	U
312-602	A Simple Two Maneuver Optimization Scheme	Gordon	10/18/65	U
312-603	More Earth-Moon Barycenter Results	Sturms	10/27/65	U
312-604	Two-way Doppler Tracking of a Landed Capsule: Part I - Direct Link Preliminary Analysis	Bourke	10/29/65	U
312-605	Guidance Accuracy for the Capsule Deflection Mode of Capsule Delivery	Light	10/29/65	U
312-606	Quality of Two-Way Data Obtained During the Mariner IV Mission	Trask	11/2/65	U
312-607	On Performance Computations with Pieced Solutions of Planetocentric and Heliocentric Trajectories for Low Thrust Missions	Melbourne/ Sauer	10/25/65	U
312-608	Computation of Librations of the Moon	Broucke/ Efron	11/3/65	U
312-609	Trajectories of Lunar Orbiter (Boeing) Mission 110	Lorell	11/4/65	U
312-610	Link REGRESS of DPODP: Formulas for Computation of Doppler Observables and Partial Derivatives of Doppler Observables with Respect to Total Parameter Vector	Moyer	11/11/65	U
	Addendum 1 - Link Regress of DPODP: Addition of Ranging as an Observable	Moyer	12/1/65	U
312-611	On the Accuracy of Earth-Based Radio Tracking During the Approach Phase of a Mission	Pfeiffer	11/11/65	U
312-612	Deep Space Network Launch Support Constraints for the Pioneer Project	Travers	11/15/65	U
	Errata (formerly IOM 312.2-176)	Travers	12/7/65	U

No.	Title	Author	Date	Class.
312-613 ODAS-43	Effect of Two Maneuvers on a Typical 67.5 Hour Lunar Trajectory	Muller	11/15/65	U
312-614	Aiming Point Philosophy and Optimum Maneuver Requirements for Separating the Voyager Arrival Dates	Bollman	11/17/65	U
312-615	The Non-Contamination Constraint and its Application to the Guidance Policy on Inter-Planetary Missions	Light	11/17/65	U
312-616	A Simplified Analysis of the Launch Bias Necessary on Interplanetary Missions	Light	11/22/65	U
312-617	First and Second Averages of Third-Body Potential	Lorell	11/19/65	U
312-618	Modifications of the SODAS Model to Include a More Accurate Description of Planetary Motion	Russell	11/19/65	U
312-619	Ionospheric Refraction Corrections	Liu	11/19/65	U
312-620	Accuracy and Running Time Study of SPACE for a Lunar Orbiter (Part 1 of two parts)	Gallagher	11/22/65	U
312-621 ODAS-44	Surveyor Post-1966 Orbit Determination Accuracy Study	George	11/23/65	U
312-622	Solution of the X-Y Antenna Mount Configuration for use in the ODP	Scranage	11/23/65	U
312-623	Planetary Satellite Orbit Determination Accuracy Using Doppler Radar with Some Application to Mars Orbiter Missions	Barber	12/2/65	U
312-624	The Influence of Oscillator Instability on Orbit Accuracy	Curkendall	12/7/65	U
312-625	The Pioneer Mission Determination of the Interplanetary Medium and its Effect on DSN Inherent Accuracy	Efron	12/15/65	U
312-626	Current "State of the Art" Capability to Control and/or Measure Solar Pressure and Attitude Control Translational Forces as Demonstrated by MA-4	Null	12/9/65	U
312-627	AC-8 Tracking Station Coverage Characteristics	Macomber	1/20/65	U
312-628	Some Simple Surveyor Maneuver Strategies	Piaggi	12/14/65	U
312-629	Solar Radiation Effect on Orbit Determination of Satellites	Scranage	12/20/65	U
312-630 ODAS-45	Periodic Comet Orbit Determination Capabilities for Spacecraft Intercept Missions from 1970-1973	Pease	12/21/65	U

* No copy of this memo available.

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