1 what similarity laws must be obeyed when constructing aeroelastic models of heated high speed aircraft .

2 what are the structural and aeroelastic problems associated with flight of high speed aircraft .

3 what problems of heat conduction in composite slabs have been solved so far .

4 can a criterion be developed to show empirically the validity of flow solutions for chemically reacting gas mixtures based on the simplifying assumption of instantaneous local chemical equilibrium .

5 what chemical kinetic system is applicable to hypersonic aerodynamic problems .

6 what theoretical and experimental guides do we have as to turbulent couette flow behaviour .

7 is it possible to relate the available pressure distributions for an ogive forebody at zero angle of attack to the lower surface pressures of an equivalent ogive forebody at angle of attack .

8 what methods -dash exact or approximate -dash are presently available for predicting body pressures at angle of attack.

9 papers on internal slip flow heat transfer studies .

10 are real-gas transport properties for air available over a wide range of enthalpies and densities .

11 is it possible to find an analytical, similar solution of the strong blast wave problem in the newtonian approximation .

12 how can the aerodynamic performance of channel flow ground effect machines be calculated .

13 what is the basic mechanism of the transonic aileron buzz .

14 papers on shock-sound wave interaction .

15 material properties of photoelastic materials .

16 can the transverse potential flow about a body of revolution be calculated efficiently by an electronic computer .

17 can the three-dimensional problem of a transverse potential flow about a body of revolution be reduced to a two-dimensional problem .

18 are experimental pressure distributions on bodies of revolution at angle of attack available .

19 does there exist a good basic treatment of the dynamics of re-entry combining consideration of realistic effects with relative simplicity of results .

20 has anyone formally determined the influence of joule heating, produced by the induced current, in magnetohydrodynamic free convection flows under general conditions .

21 why does the compressibility transformation fail to correlate the high speed data for helium and air .

22 did anyone else discover that the turbulent skin friction is not over sensitive to the nature of the variation of the viscosity with temperature .

23 what progress has been made in research on unsteady aerodynamics .

24 what are the factors which influence the time required to invert large structural matrices .

25 does a practical flow follow the theoretical concepts for the interaction between adjacent blade rows of a supersonic cascade .

26 what is a single approximate formula for the displacement thickness of a laminar boundary layer in compressible flow on a flat plate .

27 how is the design of ring or part ring wings by linear theory affected by thickness .

28 what application has the linear theory design of curved wings .

29 what is the effect of cross sectional shape on the flow over simple delta wings with sharp leading edges .

30 papers on flow visualization on slender conical wings .

31 what size of end plate can be safely used to simulate two-dimensional flow conditions over a bluff cylindrical body of finite aspect ratio .

32 to find an approximate correction for thickness in slender thin-wing theory .

33 how do interference-free longitudinal stability measurements (made using free-flight models) compare with similar measurements made in a low-blockage wind tunnel .

34 have wind tunnel interference effects been investigated on a systematic basis .

35 are there any papers dealing with acoustic wave propagation in reacting gases .

36 has anyone investigated relaxation effects on gaseous heat transfer to a suddenly heated wall .

37 are there any theoretical methods for predicting base pressure .

38 does transition in the hypersonic wake depend on body geometry and size

39 how can one detect transition phenomena in boundary layers .

40 how can one detect transition phenomena in hypersonic wakes .

41 has anyone investigated and developed a simple model for the vortex wake behind a cruciform wing .

42 what is a criterion that the transonic flow around an airfoil with a round leading edge be validly analyzed by the linearized transonic flow theory .

43 can the transonic flow around an arbitrary smooth thin airfoil be analysed in a simple approximate way .

44 what are the details of the rigorous kinetic theory of gases . (chapman-enskog theory) .

45 has anyone investigated the effect of surface mass transfer on hypersonic viscous interactions .

46 what is the combined effect of surface heat and mass transfer on hypersonic flow .

47 what are the existing solutions for hypersonic viscous interactions over an insulated flat plate .

48 what controls leading-edge attachment at transonic speeds .

49 can the three-point boundary-value problem for the blasius equation be integrated numerically, using suitable transformations, without iteration on the boundary conditions .

50 what are the effects of small amounts of gas rarefaction on the characteristics of the boundary layers on slender bodies of revolution .

51 what is the available information pertaining to boundary layers on very slender bodies of revolution in continuum flow (the ?transverse curvature effect) .

52 what is the available information pertaining to the effect of slight rarefaction on boundary layer flows (the ?slip? effect) .

53 what investigations have been made of the flow field about a body moving through a rarefied, partially ionized gas in the presence of a magnetic field .

54 how is the heat transfer downstream of the mass transfer region effected by mass transfer at the nose of a blunted cone .

55 to what extent can the available information for incompressible boundary layers be applied to problems involving compressible boundary layers .

56 to what extent can readily available steady-state aerodynamic data be utilized to predict lifting-surface flutter characteristics .

57 what are the significant steady and non-steady flow characteristics which affect the flutter mechanism .

58 is it possible to determine rates of forced convective heat transfer from heated cylinders of non-circular cross-section, (the fluid flow being along the generators) .

59 how much is known about boundary layer flows along non-circular cylinders .

60 is there any simple, but practical, method for numerical integration of the mixing problem (i.e. the blasius problem with three-point boundary conditions) .

61 does there exist a closed-form expression for the local heat transfer around a yawed cylinder .

62 how far around a cylinder and under what conditions of flow, if any, is the velocity just outside of the boundary layer a linear function of the distance around the cylinder .

63 where can i find pressure data on surfaces of swept cylinders .

64 can't the static deflection shapes be used in predicting flutter in place of vibrational shapes . if so, can we provide a justification by means of an example .

65 does the boundary layer on a flat plate in a shear flow induce a pressure gradient .

66 can the procedure of matching inner and outer solutions for a viscous flow problem be applied when the main stream is a shear flow .

67 can series expansions be found for the boundary layer on a flat plate in a shear flow .

68 what possible techniques are available for computing the injection distribution corresponding to an isothermal transpiration cooled hemisphere .

69 what is known regarding asymptotic solutions to the exact boundary layer equations .

70 previous solutions to the boundary layer similarity equations .

71 experimental results on hypersonic viscous interaction .

72 what has been done about viscous interactions in relatively low reynolds number flows, particularly at high mach numbers .

73 what role does the effect of chemical reaction (particularly when out of equilibrium) play in the similitude laws governing hypersonic flows over slender aerodynamic bodies .

74 how significant is the possible pressure of a dissociated free stream with respect to the realization of hypersonic simulation in high enthalpy wind tunnels .

75 do the discrepancies among current analyses of the vorticity effect on stagnation-point heat transfer result primarily from the differences in the viscosity-temperature law assumed .

76 how far can one trust the linear viscosity-temperature solution assumed in some of the analyses of hypersonic shock layer at low reynolds number .

77 how close is the comparison of the shock layer theory with existing experiments in the low reynolds number (merged-layer) regime .

78 has anyone explained the kink in the surge line of a multi-stage axial compressor .

79 have any aerodynamic derivatives been measured at hypersonic mach numbers and comparison been made with theoretical work .

80 are methods of measuring aerodynamic derivatives available which could be adopted for use in short running time facilities .

81 what are wind-tunnel corrections for a two-dimensional aerofoil mounted off-centre in a tunnel .

82 how do kuchemann's and multhopp's methods for calculating lift distributions on swept wings in subsonic flow compare with each other and with experiment .

83 what is the present state of the theory of quasi-conical flows .

84 references on the methods available for accurately estimating aerodynamic heat transfer to conical bodies for both laminar and turbulent flow .

85 what parameters can seriously influence natural transition from laminar to turbulent flow on a model in a wind tunnel .

86 can a satisfactory experimental technique be developed for measuring oscillatory derivatives on slender sting-mounted models in supersonic wind tunnels .

87 what effect has the boundary layer in modifying the basic inviscid flow behind the shock, neglecting effects of leading edge and corner .

88 how does a satellite orbit contract under the action of air drag in an atmosphere in which the scale height varies with altitude .

89 how is the flow at transonic speeds about a delta wing different from that on a closely-related tapered sweptback wing .

90 recent data on shock-induced boundary-layer separation .

91 what interference effects are likely at transonic speeds .

92 given complete freedom in the design of an airplane, what procedure would be used in order to minimize sonic boom intensity, and is there a limit to the degree of minimizing that can be accomplished .

93 can methane-air combustion product be used as a hypersonic test medium and predict, within experimental accuracies, the results obtained in air .

94 what is the theoretical heat transfer rate at the stagnation point of a blunt body .

95 what is the theoretical heat transfer distribution around a hemisphere .

96 has anyone investigated the unsteady lift distributions on finite wings in subsonic flow .

97 what information is available for dynamic response of airplanes to gusts or blasts in the subsonic regime .

98 will forward or apex located controls be effective at low subsonic speeds and how do they compare with conventional trailing-edge flaps .

99 given that an uncontrolled vehicle will tumble as it enters an atmosphere, is it possible to predict when and how it will stop tumbling and its subsequent motion .

100 what are the effects of initial imperfections on the elastic buckling of cylindrical shells under axial compression .

101 why does the incremental theory and the deformation theory of plastic stress-strain relationship differ greatly when applied to stability problems .

102 basic dynamic characteristics of structures continuous over many spans .

103 is the information on the buckling of sandwich sphere available .

104 can the load deformation characteristics of a beam be obtained with the material being inelastic and a non uniform temperature being present .

105 what is the effect of an internal liquid column on the breathing vibrations of a cylindrical shell .

106 experimental techniques in shell vibration .

107 in summarizing theoretical and experimental work on the behaviour of a typical aircraft structure in a noise environment is it possible to develop a design procedure .

108 what data is there on the fatigue of structures under acoustic loading .

109 panels subjected to aerodynamic heating .

110 can increasing the edge loading of a plate beyond the critical value for buckling change the buckling mode .

111 have the effects of an elastic edge restraint been considered in previous papers on panel flutter .

112 has the solution of the clamped plate problem, in the classical theory of bending, been reduced to two successive membrane boundary value problems .

113 what data exists on oscillatory aerodynamic forces on control surfaces at transonic mach numbers .

114 it is not likely that the airforces on a wing of general planform oscillating in transonic flow can be determined by purely analytical methods . is it possible to determine the airforces on a single particular planform, such as the rectangular one by such method .

115 is the problem of similarity for representative investigations of aeroelastic effects in heated flow as intractable as previous investigations imply .

116 what is the magnitude and distribution of lift over the cone and the cylindrical portion of a cone-cylinder configuration .

117 is there any information on how the addition of a /boat-tail/ affects the normal force on the body of various angles of incidence .

118 what are the aerodynamic interference effects on the fin lift and body lift of a fin-body combination .

119 what is the effect of initial axisymmetric deviations from circularity on the non linear (large-deflection) load-deflection response of cylinders under hydrostatic pressure .

120 are previous analyses of circumferential thermal buckling of circular cylindrical shells unnecessarily involved or even inaccurate due to the assumed forms of buckling mode .

121 what papers are there dealing with circumferential buckling either thermal buckling or due to mechanical loading .

122 what analytical investigations have been made of the stability of conical shells . how do the results compare with experiment .

123 has any work been done on determining the nature of compressible viscous flow in a straight channel .

124 in what areas, other than low density wind tunnel flows, is viscous compressible flow in slender channels a problem . what analytical investigations have been made of the stability of conical shells . how do the results compare with experiment .

125 jet interference with supersonic flow -dash experimental papers .