

Contents

| | |
|--|-----|
| H. LEIPHOLZ: Application of Liapunov's direct method to the stability problem of rods subject to follower forces | 1 |
| J. ANTON, P. FALB and M. I. FREEDMAN: Frequency domain criteria for stability of systems modeled by certain partial differential equations | 11 |
| E. REISSNER: A note on imperfection sensitivity of thin plates on a non-linear elastic foundation | 15 |
| P. VILLAGGIO: A stability criterion for non-linear continua | 19 |
| A. SCARLAT: L'étude de la stabilité élastique et des efforts du III ^e ordre par la méthode des charges supplémentaires | 25 |
| E. ADAMS: Contributions to hydrodynamic (in)stability by use of the lemma of Nagumo and Westphal | 32 |
| F. H. BUSSE: Stability regions of cellular fluid flow | 41 |
| H. G. M. VELTHUIZEN and L. VAN WIJNGAARDEN: The stability of gravity waves on the surface of a flow with non-uniform velocity distribution | 48 |
| R. C. DI PRIMA and R. N. GRANNICK: A non-linear investigation of the stability of flow between counter-rotating cylinders | 55 |
| T. ELLINGSEN, B. GJEVIK and E. PALM: On the non-linear stability of plane Couette flow | 61 |
| E. H. DOWELL: Aeroelastic stability of plates and shells: an innocent's guide to the literature | 65 |
| S. T. ARIARATNAM: Stability of structures under stochastic disturbances | 78 |
| M. F. BEATTY: A theory of elastic stability for perfectly elastic materials with couple-stresses | 85 |
| B. A. BOLEY: Instability of bars with stress-dependent properties | 90 |
| H. ZIEGLER: Trace effects in stability | 96 |
| C. S. HSU and T. H. LEE: A stability study of continuous systems under parametric excitation via Liapunov's direct method | 112 |
| R. KODNÁR: Probleme nichtlinearer Operatoren bei Untersuchung der Stabilität dünner Platten und Schalen | 119 |
| P. C. PARKS: Some applications of Liapunov functionals | 125 |
| D. D. JOSEPH: On the place of energy methods in a global theory of hydrodynamic stability | 132 |
| M. H. GRADOWCZYK: Interfacial instability between fluids and granular beds | 143 |
| N. J. ZABUSKY and G. S. DEEM: Unstable flows in two dimensions: comparison of laboratory experiments with numerical simulation | 151 |
| L. A. SEGEL: On the effect of sidewalls in cellular convection | 158 |
| K. KIRCHGÄSSNER and H. LANGE: The stability of cellular branching solutions of the Navier-Stokes equations | 162 |
| M. S. BERGER: On equilibrium states and periodic vibrations of thin non-linear elastic systems | 167 |

| | |
|---|-----|
| G. AUGUSTI: On buckling and instability of plastic structural models . . . | 175 |
| T. A. BARTA: A contribution to a linearized engineering shell theory . . . | 183 |
| M. DIKMEN: Stability of the Cosserat surface | 188 |
| W. ECKHAUS: On the stability of periodic solutions in fluid mechanics . . . | 194 |
| M. COTSAPTIS: On general theorems for stability | 204 |
| M. SLEMROD and E. F. INFANTE: An invariance principle for dynamical systems on Banach space: application to the general problem of thermoelastic stability | 215 |
| S. H. DAVIS: On the possibility of subcritical instabilities | 222 |
| P. K. C. WANG: Feedback stabilization of distributive systems with applications to plasma stabilization | 228 |
| G. HERRMANN: Determinism and uncertainty in stability | 238 |
| R. J. KNOPS and L. E. PAYNE: Hölder stability and logarithmic convexity | 248 |
| S. NEMAT-NASSER: Thermoelastic stability of a finitely deformed solid under nonconservative loads | 256 |
| J. BARTA: Examples on the stabilizing and destabilizing effects | 263 |
| B. STORÅKERS: Stability conditions of rigid-plastic solids with extension to visco-plasticity | 266 |
| B. D. COLEMAN: On the dynamical stability of fluid phases | 272 |
| A. C. NEWELL and J. A. WHITEHEAD: Review of the finite bandwidth concept | 284 |
| R. F. BERGERON, JR.: A class of unsteady nonlinear waves in parallel flows | 290 |
| M. ŻYCZKOWSKI and A. GAJEWSKI: Optimal structural design in non-conservative problems of elastic stability | 295 |
| F. WILLE: Zur Stabilität des schwingenden Tragflügels im Unterschallbereich | 302 |
| W. A. NASH and H. KANEMATSU: Finite amplitude response of circular plates subject to dynamic loading | 311 |
| J. CHRISTOFFERSEN: Equilibrium and stability of elastic-plastic bodies . . | 317 |
| K. NEALE and J. SCHROEDER: Instability under cycles of plastic deformation | 329 |
| A. H. CHILVER and K. C. JOHNS: Coupled modes of buckling in some continuous systems | 334 |
| J. M. T. THOMPSON and G. W. HUNT: Perturbation patterns in nonlinear branching theory | 338 |
| A. PETRE: Non-conservative effects produced by thrust of jet engine . . . | 344 |
| V. V. BOLOTIN: Stability of viscoelastic systems subjected to nonconservative forces | 349 |
| M. LESSEN, B. H.-P. CHEN and K. H. LAU: The instability of pipe Poiseuille flow with respect to finite amplitude disturbances | 361 |
| T. TATSUMI and K. GOTOH: The structure of the damping disturbances in the stability of unbounded laminar flows | 368 |
| L. J. F. BROER and J. DE GRAAF: Linear dynamical systems in Hilbert space | 376 |
| D. R. BLAND: On the stability of constant profile waves | 379 |
| M. COMO: A theory of elasto-plastic buckling of structures | 385 |
| N. S. KHOT, V. B. VENKAYYA and L. BERKE: Buckling and postbuckling behavior of initially imperfect orthotropic cylindrical shells under axial compression and internal pressure | 392 |
| A. HUAUX: Instabilité der Ruhelage für ein System mit zwei Freiheitsgraden | 399 |
| N. A. KILCHEVSKY and S. N. NIKULINSKAYA: Substantiation of the theory of stability of cylindrical shells on the basis of the Gauss principle . . . | 407 |
| G. MAIER: On structural instability due to strainsoftening | 411 |
| L. A. PELETIER: Asymptotic stability of travelling waves | 418 |