

REFERENCES

- [1]. Agrawal S C., and Agrawal G S., (1969), Hydromagnetic stability of heterogeneous shear flow, *Journal of the Physical Society of Japan*, 27, 218-223.
- [2]. Alexandros Alexakis., (2009), Stratified shear flow instabilities at large Richardson numbers, *Physics of Fluids*, 21, 054108-1-10.
- [3]. Asai T., (1970), Stability of a plane parallel flow with variable vertical shear and unstable stratification, *Journal of the Meteorological Society of Japan*, 48 (2), 129-138.
- [4]. Barston E M., (1991), On the linear stability of inviscid incompressible plane parallel flow, Journal *of Fluid Mechanics*. 233, 157-163.
- [5]. Blumen W., (1970), Shear layer instability of an inviscid compressible fluid, Journal of Fluid Mechanics, 40 (4), 769 – 781.
- [6]. Burde G I., Nasibullayev I S., and Alexander Zhalij, (2007), Stability analysis of a class of unsteady nonparallel incompressible flows via separation of variables, *Physics of Fluids*, 19, 114110-1-14.
- [7]. Camassa R and Viotti C., (2013), Transient dynamics by continuous-spectrum perturbations in stratified shear flows, *Journal of Fluid Mechanics*, 717, R5-1-12.
- [8]. Chandrasekar S., (1961), Hydrodynamic and. Hydromagnetic stability, Clarendon Press, Oxford.
- [9]. Churilov S M., (2004), On the stability of stratified shear flows with a monotonic velocity profile without inflection points, *Atmospheric and Oceanic Physics*, 40 (6), 725–736.
- [10]. Collyer M R., (1970), The stability of stratified shear flows, *Journal of Fluid Mechanics*, 42 (2), 367-377.
- [11]. Couder Y., (1981), The observation of a shear flow instability in a rotating system with a soap membrane, *Journal de Physique Lettres*, **42** (19), 429-431.

- [12]. **Deardorff J W., (1965)**, Gravitational instability between horizontal plates with shear, *Physics of Fluids*, **8**, 1027-1030.
- [13]. Drazin P G., (1960), Stability of parallel flow in a parallel magnetic field at small magnetic Reynolds numbers, *Journal of Fluid mechanics*, 8 (1), 130-142.
- [14]. Drazin P G., and Howard L N., (1966), Hydrodynamic stability of parallel flow of inviscid fluid, Advances in Applied Mechanics, 9, 1-89.
- [15]. Drazin P G., and Reid W H., (1981), Hydrodynamic stability, Cambridge University Press.
- [16]. Dudis J J., (1972), The stability of a saturated, stably stratified shear layer, Journal of Atmospheric Sciences, 29,774 – 778.
- [17]. Dunkerton T J., (1997), Shear instability of internal inertia-gravity waves, Journal of Atmospheric Sciences, 54, 1628-1641.
- [18]. El-Hady N A., and Nayfeh A H., (1979), The 12th Fluid and Plasma Dynamics Conference, Williamsburg, Virginia, AIAA Paper 79-1494.
- [19]. **El-Hady N M., (1980)**, Nonparallel stability of three-dimensional compressible boundary layers, *National Institute of Aerospace Administration*.
- [20]. Engevik L., (1973), On the stability of a shear flow in a stratified, incompressible and inviscid fluid, with special emphasis on the couette flow, *Acta Mechanica*, 18, 285 – 304.
- [21]. Eric Arobone and Sutanu Sarkar (2012), Evolution of a stratified rotating shear layer with horizontal shear. Part I. Linear stability, *Journal of Fluid Mechanics*, 703, 29-48.
- [22]. Farrell B F., and Ioannou P J., (1993), Transient development of perturbations in stratified shear flow, *Journal of the atmospheric sciences*, 50 (14), 2201-2214.
- [23]. Facchini G, Favier B, Patrice Le Gal, Meng Wang and Michael Le Bars (2018), The linear instability of the stratified plane Couette flow, *Journal of Fluid Mechanics*, 853, 205 – 234.

- [24]. FjφRtoft R., (1950), Application of integral theorems in deriving criteria of stability for laminar flows and for the baroclinic circular vortex, *Geofysiske Publikasjoner*, 17, 1-52.
- [25]. Fujimura K and Kelly R E., (1988), Stability of unstably stratified shear flow between parallel plates, *Fluid Dynamics Research*, 2, 281-292.
- [26]. Gallagher A P., and Mercer A D., (1965), On the behaviour of small disturbances in plane Couette flow with a temperature gradient, *Proceedings of Royal Society of London A*, 286, 117-128.
- [27]. Ganesh V and Subbiah M., (2013), Series solutions and a perturbation formula for the extended Rayleigh problem of hydrodynamic stability, *Proceedings of Indian Academy of Sciences (Mathematical Sciences)*, 123 (2), 293–302.
- [28]. Graham E W., (1978), A conjecture on the stability and mixing of non-parallel shear flows, Journal *of Fluid Mechanics*, 87, 785-788.
- [29]. Goldstein S., (1931), On the stability of superposed streams of fluids of different densities, *Proceedings of Royal society of London A.*, 132, 524-548.
- [30]. Gupta A S., (1963), Rayleigh_Taylor instability of a viscous electrically conducting fluid in the presence of a horizontal magnetic field, *Journal of the Physical Society of Japan*, 16(7), 1073-1082.
- [31]. Gupta A S., (1967), Hall effects on thermal instability, *Rev. Roum. Math. Pures Appl.*, 12, 665-677.
- [32]. **Gupta A.**, (1992), Hydromagnetic stability of a stratified parallel flow varying in two directions, *Astrophysics and Space Science*, 198 (1), 95-100.
- [33]. Gupta U., and Agarwal P., (2011), Thermal instability of compressible Walters' (Model B') fluid in the presence of hall currents and suspended particles, *Thermal Science*, 15 (2), 487-500.
- [34]. Gupta R K., and Singh M ., (2012), Stability of Stratified Rotating Viscoelastic Rivlin–Ericksen Fluid in the Presence of Variable Magnetic Field, Advances in Applied. Science Research, 3 (5), 3253 -3258.

- [35]. Helmholtz H., (1868), On discontinuous movements of fluids, *Philosophical Magazine*, 36 (244), 337-346.
- [36]. Hinvi L A., Monwanou A V., and Chabi Orou J B., (2013), Linear stability analysis of hydromagnetic Couette flow with small injection/suction through the modified Orr-Sommerfeld equation, *Physics Fluid - Dynamics*, http://arxiv.org/abs/1308.5530v1
- [37]. Hirota M, Morrison P J., (2016), Stability boundaries and sufficient stability conditions for stably stratified, monotonic shear flows, *Physics Letters A*, 380, 1856–1860.
- [38]. Howard L N., (1961), Note on a paper of John W.Miles, Journal of Fluid Mechanics, 10, 509-12.
- [39]. Hughes G W., Tobias M., (2001), On the instability of magnetohydrodynamic shear flows, *Proceedings of Royal Society, London A*, **457**, 1365-1384.
- [40]. Hunt J C R., (1966), On the stability of parallel flows with parallel magnetic fields, Proceedings of the Royal Society of London, Series A, Mathematical and Physical Sciences, 293, 342-358.
- [41]. Ingersoll A P., (1966), Convective instabilities in plane Couette flow, *Physics of Fluids*, 9, 682-689.
- [42]. Jain R K., and Kochar G T., (1983), Stability of stratified shear flows, *Journal* of Mathematical Analysis and Applications, 96, 269-282.
- [43]. Jose S., Roy A., Bale R., and Govindarajan R., (2015), Analytical solutions for algebraic growth of disturbances in a stably stratified shear flow. *Proceedings of Royal Society A*, 471, 1-12.
- [44]. Joseph D D., (1976), Stability of Fluid Motions I & II, Springer-Verlag, Berlin, Heidelberg.
- [45]. Kakatuni K., (1964), The Hydromagnetic Stability of the Modified Plane Couette flow in the presence of a Transverse Magnetic field, *Journal of the Physical Society of Japan*, 19 (6), 1041-1057.

- [46]. Kelvin L., (1871), Hydrokinetic solutions and observations, *Philosophical Magazine*, 42, 362-377.
- [47]. Ken Sasaki., (1971), Rotational instability of a horizontal shear flow in a stratified rotating fluid, *Journal of the Oceanographical Society of Japan*, 27 (4), 137 141.
- [48]. Kendall J M., (1975), Wind Tunnel Experiments Relating to Supersonic and Hypersonic Boundary-Layer Transition, AIAA Journal, 13, 290-299.
- [49]. Kent A., (1966), Instability of laminar flow of a perfect Magnetofluid, *Physics of Fluids*, 9, 1286-1289.
- [50]. Kent A., (1968), Stability of laminar magnetofluid flow along a parallel magnetic field, *Journal of Plasma Physics*, 2 (4), 543-556.
- [51]. Kloosterziel R C., Orlandi P and Carnevale G F., (2007), Saturation of inertial instability in rotating planar shear flows, Journal of Fluid Mechanics, 583, 413–422.
- [52]. Kochar G T., and Jain R K., (1979), On Howards semi-circle theorem, *Journal of Fluid Mechanics*, 91, 489-491.
- [53]. Kuo H L., (1949), Dynamic instability of two-dimensional nondivergent flow in a barotropic atmosphere, *Journal of Meteorology*, 6, 105-122.
- [54]. **Kuo H L., (1963)**, Perturbations of plane couette flow in stratified fluid and origin of cloud Streets, *Physics of Fluids*, **6**, 195 211.
- [55]. Laufer J., and Vrebalovich T., (1960), Stability and transition of a supersonic laminar boundary layer on an insulated flat plate, *Journal of Fluid Mechanics*, 9, 257-299.
- [56]. Lerner J and Knobloch E., (1985), The stability of dissipative magneto hydrodynamic shear flow in a parallel magnetic field", *Geophysical and Astrophysical Fluid Dynamics*, 33, 295-314.

- [57]. Leonovich A S., and Mishin V V., (2005), Stability of Magnetohydrodynamic Shear Flows with and Without Bounding Walls, *Journal of Plasma Physics*, 71 (5), 645–664.
- [58]. Liang Sun (2011), Long-wave instability and growth rate of the inviscid shear flows, *Physics Fluid Dynamics*, 1-4
- [59]. Lin C C., (1955), The theory of Hydrodynamic stability, Cambridge University Press.
- [60]. Ling C., and Reynolds W C., (1973), Non-Parallel flow corrections for the stability of shear flows, *Journal of Fluid Mechanics*, 59 (3), 571-591
- [61]. Lock R C., (1955), The stability of the flow of an electrically conducting fluid between parallel planes under transverse magnetic field, *Proceedings of Royal Society: A*, 233, 1055.
- [62]. Mack L M., (1975), Linear stability theory and the problem of super-sonic boundary-layer transition, AIAA Journal, 13 (3), 278-289.
- [63]. Michael D H., (1953), The stability of plane parallel flows of electrically conducting fluids, *Proceedings of the Cambridge Philosophical Society*, 49 (1), 166-168.
- [64]. Miles J W., (1961), On the stability of heterogeneous shear flow, Journal of Fluid Mechanics, 10, 496-508.
- [65]. Mobbs S D., and Darby M. S., (1989), A general method for the linear stability analysis of stratified shear flows, *Quarterly Journal of Meteorological Society*, 115, 915-939.
- [66]. Monwanou A V., Hinvi A L., Miwadinou H C., and Chabi Orou J B., (2017), A New Approach for the Stability Analysis in Hydromagnetic Couette Flow, *Journal of Applied Mathematics and Physics*, 5, 1503-1514.
- [67]. Naresh Kumar Dua, Hari Kishan and Ruchi Goel, (2011), Hydromagnetic Stability of Stratified Shear Flows in the Presence of Cross Flow, Annales Polonici Mathematici, 102 (1), 15-23.

- [68]. Padmini M and Subbiah M., (1995), Stability of non-parallel stratified shear flows, International Journal of Pure and Applied Mathematics, 26 (5), 471-483.
- [69]. Parthi S and Nath G., (1991), Stability of magnetohydrodynamic stratified shear flows, *Nuovo cimento*, 13D (6), 765-778.
- [70]. **Paul Matthews and Stephen Cox (1997)**, Linear stability of rotating convection in an imposed shear flow, *Journal of Fluid Mechanics*, **350**, 271-293.
- [71]. **Pellacani C., (1983)**, Shear instabilities in stratified fluids; linear theory, *La Rivista del Nuovo Cimento*, **6** (7), 1 26.
- [72]. Prasada Rao D R V., and Krishna D V., (1981), Hall effects on unsteady hydromagnetic flow, *Indian Journal of Pure and Applied Mathematics*, 12 (2), 270-276.
- [73]. Raptis A., and Ram, P.C., (1984), Role of rotation and Hall currents on free convection and mass transfer flow through a porous medium, *International Communications in Heat and Mass Transfer*, 11 (4), 385–397.
- [74]. Rathy R K., and Harikishan (1981), Stability of hydromagnetic stratified shear flow, Indian Journal of Pure and Applied Mathematics, 12 (6), 764-768.
- [75]. Rayleigh F R S., (1879), On the stability or instability, of certain fluid motions, Proceedings of the London Mathematical Society, s1-11, 57-72.
- [76]. Rayleigh L., (1880), Proceedings of London Mathematical Society, 11, 57.
- [77]. Rayleigh L., (1917), On the dynamics of revolving fluids, *Proceedings of Royal Society of London*, A, 93, 148 154.
- [78]. Reddy V R., and Subbiah M., (2015), Stability of stratified shear flows in channels with variable cross sections, Applied Mathematics and Mechanics, 26 (11), 1459-1480.
- [79]. **Renardy Y., (1985)**, Instability at the interface between two shearing fluids in a channel, *Physics of fluids*, **28**, 3441.
- [80]. **Reynolds O.**, (1883), An experimental investigation of the circumstances which determine whether the motion of water in parallel channels shall be direct or

sinuous and of the law of resistance in parallel channels, *Philosophical Transactions of Royal Society*, **174**, 935–982

- [81]. Ruderman M S., and Brevdo L., (2006), Stability of an MHD shear flow with a piecewise linear velocity profile, *Astronomy & Astrophysics*, 448 (3), 1177–1184.
- [82]. Rudraiah N., (1978), Hydromagnetic stability of compressible fluid, 9 (11), 1163-1174.
- [83]. Salhi A., and Cambon C., (2010), Stability of rotating stratified shear flow: An analytical study, *Physical Review E: Statistical, Nonlinear, and Soft Matter Physics, American Physical Society*, 81, 1-37.
- [84]. Satya Narayanan A., (1983), Helmholtz instability in stratified shear flows with magnetic fields, *Astrophysics and Space Science*, 95, 277 282.
- [85]. Sen Gupta S., and Gupta A. S.,(1975), Hydrodynamic stability in a rotating channel flow, *Publications de l'Institut Mathématique*, 19 (33), 147-153
- [86]. Sharma R C., and Rani N., (1988), Hall effects on thermosolutal instability of a plasma, *Indian Journal of Pure and Applied Mathematics*, 19 (2), 202–207.
- [87]. Sharma R C., (2000), Hall effect on thermal instability of Rivlin Erickson fluid, Indian Journal of Pure and Applied Mathematics, 31 (1), 49-59.
- [88]. Sharma V., and Kumar S., (2000), Thermosolutal convection of micropolar fluids in hydromagnetics, *Czechoslovak Journal of Physics*, 50 (10), 1133–1146.
- [89]. Shivamoggi B K., (1986), Stability of parallel gas flows, Chichester, England/New York, Ellis Horwood, Ltd./Halsted Press.
- [90]. Solomon T H., Holloway W. J and Swinney H L.(1993), Shear flow instabilities and Rossby waves in barotropic flow in a rotating annulus, *Physics of Fluids A*, 5 (8), 1971-1982.
- [91]. Sridevi S., and Ganesh V., (2016), On the stability of shear flows with bottom topography, *International Journal of Mathematical Analysis*, 10 (14), 651 659.

- [92]. Stuart J T., (1954), On the stability of viscous flow between parallel planes in the presence of a coplanar magnetic field, *Proceedings of Royal Society A*, 221, 189 – 206.
- [93]. Sumathi K., and Raghavachar M R., (1993), Shear flow instabilities in rotating systems, *Astrophysics and Space Science*, 199 (1), 89-104.
- [94]. Sunil., Sharma Y D., Bharti P K., and Sharma R C., (2005), Thermosolutal instability of compressible Rivlin-Ericksen fluid with Hall currents, *Indian Journal of Applied Mechanical Engineering*, 10 (2), 329-343.
- [95]. Synge J L., (1933), The stability of heterogeneous fluids, *Transactions of Royal Society of Canada*, 27, 1-18.
- [96]. Takashima M., (1998), The stability of the modified plane Couette flow in the presence of a transverse magnetic field, *Fluid Dynamics Research*, 22, 105-121.
- [97]. Takashima M., Hirasawa M., and Nozaki H., (1999), Buoyancy driven instability in a horizontal layer of electrically conducting fluid in the presence of a vertical magnetic field, *International Journal of Heat and Mass Transfer*, 42, 1689-1706.
- [98]. **Taylor G I., (1931)**, Effect of variation in density on the stability of superposed streams of fluids, *Proceedings of Royal Society of London A*, **132**, 499 523.
- [99]. Tobias S M., and Marston J B., (2017), Three-dimensional rotating Couette flow via generalised quasilinear approximation, *Journal of Fluid Mechanics*, 810, 412-428.
- [100]. Turner J S., (1973), Buoyancy Effects in Fluids, Cambridge University Press, Great Britain.
- [101]. Vasilyev O V., and Paolucci S., (1995), Stability of unstably stratified shear flow in a channel under non-Boussinesq conditions, *Acta Mechanica*, 112, 37-58.
- [102]. Vanneste J and Yavneh I (2007), Unbalanced instabilities of rapidly rotating stratified Shear flows, *Journal of Fluid Mechanics*, 584, 373-396.

- [103]. Veena Sharma and Kamal Kishor (2001), Hall effect on thermosolutal instability of Rivlin-Erickson fluid with varaying gravity field in porous medium, *Indian journal of pure and Applied Mathematics*, 32 (11), 1643-1657.
- [104]. Viswanadha Sarma L V K., (1961), Shear flow of a conducting fluid in the presence of a magnetic field, *Applied scientific research*, 9 (B), 245 -254.
- [105]. Wang P., McWilliams J C., and Claire Ménesguen, (2014), Ageostrophic instability in rotating, stratified interior vertical shear flows, *Journal of Fluid Mechanics*, 755, 397-428.
- [106]. Wooler P T., (1961), Instability of flow between parallel planes with a co-planar magnetic field, *Physics of Fluids*, 4 (1), 24-27.
- [107]. Yih C S., (1980), Stratified flows, Academic Press, New York.