Curriculum Vitae of Prof. Dr. Muhammad Ayub

Deptt. Of Maths., Quaid-i-Azam University, Islamabad
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A.   Personal Data

Father's Name:	Khair Muhammad
Date & Place of Birth:	2-10-1959 (Sargodha)
National I.D.Card No.:	38401-4727818-3 (233-86-014148)
Nationality:	Pakistani
Religion:	Islam
Marital Status:	Married

Permanent Address: House # 191-C, Street No. 31, PWD Housing Society, Islamabad
Phone No.: 0092-51-5389359, 051-5958922

Present Address: Professor and Chairman, Deptt. Of Maths., Quaid-i-Azam University, Islamabad
Phone #: 0092-51-90642175 (Mobile 0333-5279488)

Research Interests:
1.   Computational Fluid Dynamics
2.   Wave Motion (Acoustic/Elastic/Electromagnetic Waves)
3.   Methods:
    (a) Finite Element Method
    (b) Wiener-Hopf Technique
    (c) Group Theoretic Method
    (d) Homotopy Analysis Method

B.   Country Visited

1. Malta   2. Libya   3.   UAE   4.   U.S.A.   5.   S. Arabia

C.   Post-Doctoral Research

The Post-Doctoral Research was done at the **University of Illinois at Chicago, USA** during the period Jan. 2002 to August 2002.

D.   Qualifications

1.   **Doctor of Philosophy (1992)**

    Title of Thesis: Diffraction of Acoustic Waves by Half Planes

2.   **Master of Philosophy (1985)**

    Title of Thesis: Diffraction of Love Waves

3.   **Master of Science (1982)**

E.   Scholarships/Fellowships

1.   Scholarship for M.Sc. from Quaid-i-Azam University.
2.   Fellowship for M.Phil. from Quaid-i-Azam University.
3.   Fellowship for Ph. D. from Quaid-i-Azam University.
4.   Post Doctoral Fellowship awarded by the Ministry of Science and Technology, Govt. Of Pakistan.

F.   Distinctions

1.   Dr. Razi-ud-Din Siddiqui **Gold Medal** awarded by Pakistan Academy of Sciences for the year 1997.
2.   Pakistan Academy of Sciences **Gold Medal** in Mathematics for the year 2004.
3.   **Best University Teacher** award for the year 2004

G. Teaching/Research Experience

1. **Junior Research Assistant** *(Sept. 1983 to Aug. 1985)*
   Deptt. Of Maths. Quaid-i-Azam University.

2. **Lecturer in Mathematics** *(Sept. 1,1985 to Aug. 28, 1994).*
   Punjab Education Deptt., Govt. of Pujab.

3. **Assistant Prof.** *(Aug. 29, 1994 to Aug. 15, 2003)*
   Deptt. Of Maths., Quaid-i-Azam University, Islamabad.

4. **Associate Prof.** *(Aug. 16, 2003 to Aug. 19, 2005)*
   Deptt. of Math., Quaid-I-Azam University, Islamabad.

5. **Professor** *(Aug. 20, 2005, to-date)*

6. **Assistant Prof. of Maths.** *(Feb. 1998 to Sept. 1999)*
   Bright Star University of Science and Technology, Brega, Libya)

7. **Post-Doctoral Fellow** *(Jan. 2002 to Aug. 2002).*
   Deptt. Of Civil and Materials Engg., University of Illinois at Chicago, USA.

H. Conferences Attended:

1. **All Pakistan Mathematical Conference**
   Deptt. Of Maths., Quaid-i-Azam University (Oct. 1-4, 1985).

2. **Third Albert Einstein Seminar**
   Deptt. Of Maths., Quaid-i-Azam University (Feb. 25-27, 1989).

3. **School of Fundamental Physics and Cosmology**
   Deptt. Of Physics, Quaid-i-Azam University (March 11-25, 1990)

4. **Symposium on Applications of Group Theory**
   Deptt. Of Maths., Quaid-i-Azam University (April 26-27, 2000).

5. **25th International Nathiagali Summer College on Physics and Contemporary Needs**
   Bhurban, Pakistan, (June 26 - July 15, 2000).

6. **26th International Nathiagali Summer College on Physics and Contemporary Needs**
   Bhurban, Pakistan, (June 25 – July 14, 2001).

7. **Workshop on Applications of Symmetry Methods,** *Department of Mathematics, Quaid-I-Azam University, Islamabad (Oct. 15-17, 2002)*

8. *International Conference on* **Models and Methods in Fluid Mechanics,** *COMSATS Institute of Information Technology, Abbottabad (June 23-26 2003).*

9. **4Th International Bhurban Conference on Applied Sciences and Technology,** *Bhurban, Pakistan (June 16 – June 18, 2005).*

10. **International Conference on Mathematical Models and Methods in Fluid Mechanics,** *COMSATS Institute of Information Technology, Islamabad, Pakistan, (July 4-6, 2005).*

11. **International Conference on Mathematical Models and Methods in Fluid Mechanics,** *COMSATS Institute of Information Technology, Islamabad, Pakistan, (July 17-19, 2006).*

12. **International Conference on Mathematics,** *Department of Mathematics, Quaid-I-Azam University, Islamabad, Pakistan, (Sept., 12-14, 2006).*

I. Administrative Experience:

Chairman, Department of Mathematics, Quaid-i-Azam University, Islamabad since 12-10-2007.

J. Membership:

1. Member Punjab Mathematical Association.

2. Member All Pakistan Mathematical Assciation

3. Member Board of Faculty, Allama Iqbal Open University, Islamabad.

4. Member Board of Studies, Azad Jammu and Kashmir University, Muzaffarabad.

5. Member Board of Studies, Air University, Islamabad.

6. Member Board of Studies, Fatima Jinnah Women University, Rawalpindi.

7. Member advanced Studies, Research and Technology Development Board, University of Engineering and Taxila,

8. Member Editorial Board of ISRN Applied Mathematics,

K. Courses Taught:

1. **M. Sc.:**
    - (i)   Advanced Calculus
    - (ii)   Measure and Integration
    - (iii) Complex Analysis
    - (iv)   Linear Algebra
    - (v)   Partial Differential Equations
    - (vi)   Numerical Methods
    - (vii) Numerical Analysis
    - (viii) Discrete Mathematics (IT Deptt.)
    - (ix)   Mathematical Methods for Statistics (Stat. Deptt.)
    - (x)   Integral Equations
    - (xi)   Fluid Mechanics

2. **M. Phil.:**
    - (i)   Mathematical Techniques for B. V. P.
    - (ii)   Numerical Solutions of P. D. Es.
    - (iii) Partial Differential Equations
    - (iv)   Basics of Theory of Fluid Mechanics
    - (v)   Elasto-dynamics
    - (vi)   Plasma Theory-I

L. Supervision of Theses:

(i) **M. Phil.:**

1. **Iftikhar Ahmad**   **(1996)**
    Sound due to a point source near a penetrable half-plane.

2. **Muhammad Arshad**   **(1996)**
    Cylindrical wave scattering from a penetrable half-plane

3. **Muhammad Azhar Iqbal Kashif Butt**   **(1997)**
    Gaussian pulse in sea water and it application

4. **Inayat Ali**   **(1997)**
    Spherical acoustic wave near a half-plane

5. **Muhammad Aqil Gillani**   **(1997)**
    Cylindrical acoustic wave near a half-plane satisfying mixed boundary conditions.

6.   **M. Javed Iqbal Shad**   **(1997)**
        Scattering of shear waves

7.   **Abid Aslam**   **(2001)**
        Acoustic diffraction from a circular cylinder

8.   **Waqas Qayyum**   **(2001)**
        Stokes' problem for a non-Newtonian magneto-hydro-dynamic fluid with pressure gradient

9.   **Suhail Nawaz**   **(2001)**
        *Heat transfer to liquid lithium in a curved bend in the presence of a transverse magnetic
        field and gravity when two faces of the channel are heated*

10.   **Ehsan Ellahi Ashraf**   **(2001)**
        New solutions of Stokes' problem for the third grade fluid

11.   **Muhammad Saleem**   **(2001)**
        Flow due to eccentrically rotating porous disk in second grade MHD fluid at infinity

12.   **Aamir Rasheed**   **(2003)**
        Introduction to homotopy method and its applications

13.   **Nasir Ali**   **(2004)**
        Effects of Hall current on flows due to non-coaxial rotations of disk and Oldroyd-B fluid

14.   **Imran Naeem**   **(2004)**
        Exact solutions of second grade aligned MHD fluid flows with prescribed vorticity

15.   **Fatima Qureshi**   **(2004)**
        *An application of homotopy analysis method on magneto-
        hydrodynamic flow*

16.   **Muhammad Murad**   **(2004)**
        Some simple transient flows of an Oldroyd-B fluid

17.   **Gulshad**   **(2005)**
        Homotopy analysis of MHD flows

18.   **Muhammad Zaigham**   **(2005)**
        Homotopy analysis of stagnation flows with slip

19.   **Naila Rehamn**   **(2005)**
        Some starting solutions of unsteady unidirectional flows of second grade MHD fluid

20.   **Sher Afzal**   **(2005)**
        Analytical solutions of flows on porous plate

21   **Aeysha Javaid**   **(2005)**
        Scattering of sound waves due to a line source by junction of transmissive and soft-hard planes

22   **Shahida Nargis**   **(2006)**
        Assembly method for coupled solution of large displacement fluid structure problem

23   **Muhammad Rehan Anis**   **(2006)**
        Influences of slip condition on the non-Newtonian flow

24   **Samina Bibi**   **(2006)**
        Diffraction of plane waves by a soft/hard finite strip

25   **Amina Ajaib**   **(2006)**
        Diffraction by three parallel staggered impedance half-planes due to a line source.

26   **Hina Firdous**   **(2007)**
        Diffraction by an absorbing half-plane with wake

27.   **Hafiz Abdul Wahab**   **(2007)**
        Analytical Methods for non-linear problems

28   **Rab Nawaz**   **(2007)**
        Diffraction of sound waves by a finite barrier in a moving fluid

29.   **Noreen Akram**   **(2008)**
        Diffraction of waves by an acoustically penetrable strip

30.   **Atifa Kanwal**   **(2008)**
        Acoustic diffraction by a finite plane in a viscous fluid medium

31.   **Rabia Kamal**   **(2008)**
        Diffraction of waves by three parallel half-planes with different face impedances

32.   **Ambreen Khan**   **(2008)**
        Diffraction by a thick-walled parallel plate impedance waveguide

33.   **M. Raees-ul-Haq**   **(2008)**
        Numerical studies of heat transfer analysis of MHD flow of an Oldroyed 8-constant fluid between the concentric cylinders

34.   **Seemab Bashir**   **(2009)**
        Diffraction of sound waves by an absorbing half-plane in a moving fluid: A solution for an intermediate range

35.   **Saher Najam**   **(2009)**
        Analytic solutions for oscillatory flows in generalized Burger's fluid

36.   **Sahrish Zaib**   **(2009)**
        Some exact solutions for flows of generalized Oldroyd-B fluid

37.   **Tariq Huassin**   **(2009)**
        Oscillating flow of a Burger's fluid in a porous medium with fractional calculus

38.   **Tufail Ahmad Khan**   **(2010)**
        AnayLysis of a diffraction problem in a bifurcated waveguide

39.   **Sherzad Ali**   **(2011)**
        Propagation of sound in duct lined with three different types of absorbent material

40.   **Sohaib Ahmad**   **(2011)**
        Diffraction of electromagnetic waves by a perfectly conducting half-plane

41.   **Adnan Javed**   **(2011)**
        Black-Scholes model and barrier options

42.   **Rashid Mehmood**   **(2011)**
        Non-orthogonal stagnation point flow of a non-Newtonian fluid

43.   **Jawad Ahmad**   **(2001)**

44.   **Muhammad Obaid**   **(2011)**

(ii)   *Ph. D.: (Supervisor/Co-Supervisor)*

1.   **Masood Khan**   **(2005)**
      Some Flow Problems of an Oldroyd Fluid: Homotopy analysis method and numerical computation
      (Joint Supervision, as Supervisor)

2.   **Muhammad Muddassar Gulzar**   **(2007)**
      Flows of third grade fluids in a rotating frame
      (Joint Supervision, as Co-Supervisor)

3.   **Faisal Shahzad**   **(2007)**
      Non-Newtonian fluid flows in rotating and non-rotating frames

4.   **Iftikhar Ahmad**   **(2008)**
      Solutions of some unsteady flows over a stretching sheet using Homotopy analysis method.
      (Joint Supervision, as Supervisor)

5.   **Haider Zaman**   **(2009)**
      Flows induced by a stretching surface

6.   **Muhammad Ramzan**
      Application of Wiener-Hopf technique on diffraction problems   **(2010)**

7.   **Amer Bilal Mann**   **(2010)**
      Matrix Wiener-Hopf analysis of some scattering problems of acoustic waves

8.   **Mazhar Hussain Tiwana**   **(2011)**
      Wiener-Hopf analysis of parallel plate waveguides

9.   **Muhammad Yaqub**   **(2011)**
      Nonlinear dynamics of ITG-modes in a dust contaminated magnetoplasma
      Joint Supervision, as Supervisor

10.   **Muhammad Sadiq**   **(2011)**
      Gravity Field Parameters Estimation and Precise Geoid Modeling in Pakistan with Additional Study on the Data Processing and Combination of Twin GRACE Satellites Using SRTM30 Topology, EGM96 Model and Ground Gravity Data
      Joint Supervision, as Co-Supervisor

11.   **Amjad Naeem**   **(Thesis Submitted)**   **(2011)**
      Diffraction of sound in a moving fluid

12.   **Shahida Nargis**   **(Thesis submitted)**   **(2011)**
      Study of solitons and vortex formation in dense quantum plasmas

Work in Progress:

1.   **Noreen Akram**   *since*   **06-11-08**

2.   **Ambreen Khan**   *since*   **06-11-08**

3.   **Rab Nawaz**   *since*   **01-04-09**

4.   **Tufail Ahmad Khan**   *since*   **19-08-10**

5.   **Javed Iqbal**   *since* **03-09-10**

List of Research Publications *(Total Impact Factor/Publications 68.142/77)*

In Press/Accepted: *(Impact Factor/Publications 3.385/3)*

77. **M. Ayub**, M. H. Tiwana and A. B.Mann: *Wiener-Hopf analysis of an acoustic plane wave in a trifurcated waveguide,* **Archive of Applied Mechanics**, *81*, 2011 (ISI Impact Factor **0.993**)

76. H. Zaman, T. Hayat, **M. Ayub**, R.S. Gorla: *Series solution for heat transfer from a continuous surface in a parallel free stream of viscoelastic fluid,* **Numerical Methods for Partial Differential Equations** *DOI: 10.1002/num.20593* (ISI Impact Factor **1.196**)

75. T. Hayat, H. Zaman, and **M. Ayub**: *Analytical solution of hydromagnetic flow with Hall effects over a surface stretching with a power-law velocity,* **Numerical Methods for Partial Differential Equations** *(in press), DOI: 10.1002/num.20562* (ISI Impact Factor **1.196**)

Published: *(Impact Factor/Publications 64.787/74)*

2011

75. A. Qamar, MY Khan, Atta-ullah-Shah, AM Mirza and **M. Ayub:** *Chaos in toroidal ion-temperature-gradient-driven modes in dust-contaminated magneto-plasma,* **Physica Scripta**, *83* (6) 065503, 2011 *(ISI Impact Factor **1.088**)*

(2010) *(Impact Factor/Publications 8.754/13)*

74-13. **M. Ayub**, A. Naeem, R. Nawaz: *Sound due to an impulsive line source,* **Computers and Mathematics with Applications, 60**(12), 3123-3129, 2010. **(**ISI Impact Factor **1.192**)

73-12. **M. Ayub**, M. H. Tiwana and A. B.Mann: *Analysis of diffraction characteristics in an impedance loaded trifurcated duct,* **Zeitschrift für Naturforschung A, 65** (11), 995-1008, 2010 (ISI Impact Factor **0.850**)

72-11. H. Zaman, **M. Ayub:** *Series Solution of unsteady free convection flow with mass transfer along an accelerated vertical porous plate with suction,* **Central European Journal of Physics, 8(6),** 931-939, 2010. (ISI Impact Factor **0.728**)

71-10**.** **M. Ayub**, A. Naeem, R. Nawaz: *Diffraction of an impulsive line source with wake,* **Physica Scripta, 82**(4), 045402, 2010 (ISI Impact Factor **1.088**)

70-9**.** **M. Ayub,** H. Zaman**,** *Complete derivation of the momentum equation for the second grade fluid***, The J. Math and Comp. Science, Vol. 1**(1), 33-39, 2010

69-8. **M. Ayub,** M. H. Tiwana and A. B. Mann: *Acoustic diffraction in a trifurcated waveguide with mean flow,* **Communications in Nonlinear Science and Numerical Simulation, 15,** 3939-3949, 2010

68-7**.** **M. Ayub,** A. B. Mann, M. Ahmad and M. H. Tiwana: *Wiener-Hopf analysis of diffraction of acoustic waves by a soft/hard half plane,* **Archives of Mech. 62** (2), 157-174, 2010 (ISI Impact Factor **0.306**)

67-6. **M. Ayub,** M. H. Tiwana and A. B. Mann: *Influence of the dominant mode propagation in a trifurcated lined duct with different impedances,* **Physica Scripta 81**(3), Art. No. 035402, 2010 (ISI Impact Factor **1.088**)

66-5. **M. Ayub,** H. Zaman and M. Ahamd**:** *Series solution of hydromagnetic flow and heat transfer with Hall effect in a second grade fluid over a stretching sheet,* **Central European Journal of Physics, 8**(1), 135-149, 2010 (ISI Impact Factor **0.728**)

65-4. H. Zaman and **M. Ayub**: *Reply to the comments: A note on "Series solution of hydromagnetic flow and heat transfer with Hall effects in a second grade fluid over a stretching sheet",* **Central European Journal of Physics, 8** (3), 516-518, 2010 (ISI Impact Factor **0.728**).

64-3. *F. Shahzad, T. Hayat,* **M. Ayub** *and S. Asghar: Unsteady MHD flow due to non-coaxial rotation of micropolar fluid and an accelerated disk with partial slip condition*, **Numerical Methods for Partial Differential Equations.** *26(1), 176-187, 2010.* (ISI Impact Factor **1.196**)

63-2. *M. Sadiq, Z. Ahmad and* **M. Ayub**: *Vertical gravity anomaly gradient effect of innermost zone on geoid-quasigeoid separation and an optimal integration radius in planar approximation,* **Applied Geomatics**, **2**(1), 9-19, 2010

62-1. *T. Hayat T, S. Najam, M. Sajid,* **M. Ayub** *and S. Mesloub: On Exact Solutions for Oscillatory Flows in a Generalized Burgers Fluid with Slip Condition,* **Zeitschrift für Naturforschung A**, **65** (5), 381-391, 2010 (ISI Impact Factor **0.850**)

(2009)   (Impact Factor/Publications 14.754/14)

61-14. **M. Ayub**, *A. Naeem, R. Nawaz: Line source diffraction by a slit in a moving fluid,* **Can. J. Phy**. *Vol.* **87**(11), 1139-1149, 2009 (ISI Impact Factor **0.864**

60-13**.** **M. Ayub,** *A.B. Mann, M. Ramzan and M. H. Tiwana: Diffraction of a plane wave by a soft-hard strip,* **Optics Communications, 282,** *4322-4328, (2009).* (ISI Impact Factor **1.316**)

59-12. **M. Ayub,** *M.H. Tiwana, A.B. Mann and M. Ramzan**: Diffraction of waves by an oscillating source and an oscillating half plane,* **J. Modern optics, 56**(12), 1335-1340, 2009. (ISI Impact Factor **0.942**)

58-11**.** **M. Ayub,** *M. Ramzan and A.B. Mann**: Acoustic diffraction by an oscillating strip,* **Applied Math. & Comp.,** **214,** *201-209, 2009.* (ISI Impact Factor **1.124**)

57-10. **M. Ayub,** *M. Ramzan and A.B. Mann**: Line source and point source diffraction by a reactive step,* **J. Modern Optics, 56**(7), 893-902, 2009. (ISI Impact Factor **0.942**)

56-9. **M. Ayub,** *M. Ramzan and A.B. Mann**: Magnetic line source diffraction by an impedance step,* **IEEE Transaction on Antennas and Propagation, 57**(4), 1289-1293, 2009. (ISI Impact Factor **2.011**)

55-8. **M. Ayub, M. H. Tiwana and A. B. Mann:** *Propagation of sound in a duct with mean flow,* **Communications in Nonlinear Science and Numerical Simulation, !4,** *3578-3590, 2009*

54-7. **M. Ayub**, *R. Nawaz and A. Naeem, Diffraction of sound waves by a finite barrier in a moving fluid,* **J. Math. Anal. Appl**. *349, 245-258, 2009.* (ISI Impact Factor **1.225**)

53-6. **M. Ayub,** *A. B. Mann, M. Ramzan and M. H. Tiwana**: Diffraction of plane wave by a slit in an infinite soft/hard plane,* **Progress in Electromagnetic Research B, 11,** *103-131, 2009.*

52-5. *T. Hayat F. Shahzad and* **M. Ayub:** *Oscillatory flow of a fourth order fluid,* **Inter. J. Numer. Meth. Fluids 61,** *275-290, 2009* (ISI Impact Factor **0.790**

51-4. *M. Sajid, I. Ahmad, T Hayat and* **M. Ayub:** *Unsteady flow and heat transfer of a second grade fluid over a stretching sheet,* **Communications in Nonlinear Science and Numerical Simulation 14**, *96-108, 2009*

50-3. *T. Hayat, I. Naeem,* **M. Ayub**, *A.M. Siddiqui, S. Asghar and C. M. Khalque: Exact solutions of second grade aligned MHD fluid with prescribed vorticity,* **Nonlinear Analysis: Real World Applications, 10**(4), 2117-2126, 2009 (ISI Impact Factor **2.381**)

49-2. *W. Masood, Arshad M. Mirza, Shahida Nargis, and* **M. Ayub:** *Ion-acoustic vortices in inhomogeneous and dissipative electron-positive-ion quantum magnetoplasma,* **Physics of Plasma, 16,** *042308, 2009.* (ISI Impact Factor **2.475**)

48-1. *M. Sajid, I. Ahmad, T. Hayat and* **M. Ayub**: *Flow and heat transfer of an unsteady MHD axisymmetric flow in a porous medium due to a stretching sheet,* **Journal of Porous Media, 12**(9), 901-910, 2009. (ISI Impact Factor **0.684**)

(2008) (Impact Factor/Publications 12.781/10)

47-10. **M. Ayub**, *M. Ramzan and A.B. Mann: A note on cylindrical wave diffraction by a perfectly conduction strip in a homogeneous bi-isotropic medium,* **J. Modern Optics, 55** *(17), 2805-2818, 2008.* (ISI Impact Factor **0.942**)

46-9. **M. Ayub**, *M. Ramzan and A. B. Mann: A note on a spherical electromagnetic wave diffraction of by a perfectly conducting strip in a homogeneous bi-isotropic medium,* **Progress in Electromagnetic Research-PIER, 85,** *169-194, 2008.* (ISI Impact Factor **3.763**)

45-8. **M. Ayub**, *M. Ramzan and A. B. Mann: A note on plane wave diffraction by a perfectly conducting strip in a homogeneous bi-isotropic medium,* **Optics Express, 16** *(17), 13203-13217, 2008.* (ISI Impact Factor **3.278**)

44-7. **M. Ayub**, *A.B. Mann and M. Ahmad: Line source and point source scattering of acoustic waves by the junction of transmissive and soft-hard half planes,* **Journal Mathematical Analysis and Applications, 346**(1), 280-295, 2008. *(ISI Impact Factor* **1.225**)

43-6. **M. Ayub**, *H. Zaman, M. Sajid and T. Hayat: Analytical solution of stagnation-point flow of a viscoelastic fluid towards a stretching surface,* **Communications in Nonlinear Science and Numerical Simulation, 13**(9), 1822-1835, 2008.

42-5. *I. Ahmad, M. Sajid, T. Hayat and* **M. Ayub**: *Unsteady axisymmetric flow of a second grade fluid over a radially stretching sheet,* **Computers and Mathematics with Applications, 56**(5), 1351-1357, 2008. *(ISI Impact Factor* **1.192**)

41-4. *F. Shahzad, T. Hayat and* **M. Ayub**: *Stokes' first problem for rotating flow of third grade fluid,* **Nonlinear Analysis – B: Real World Applications 9**(4), 1794-1799, 2008. *(ISI Impact Factor* **2.381**)

40-3. *M. Sajid, I. Ahmad, T Hayat and* **M. Ayub**: *Series solution for unsteady axisymmetric flow and heat transfer over a radially stretching sheet,* **Communications in Nonlinear Science and Numerical Simulation, 13**(10), 2193-2202, 2008

39-2. *T. Hayat, F. Shahzad,* **M. Ayub** *and S. Asghar: Stokes' first problem for third grade fluid in a porous half space,* **Communications in Nonlinear Science and Numerical Simulation, 13**(9), 1801-1807, 2008.

38-1. *T. Hayat, M. Sajid and* **M. Ayub:** *On explicit analytic solution for MHD pipe flow of fourth grade fluid,* **Communications in Nonlinear Science and Numerical Simulation 13**(4), 745-751**,** *(2008).*

(2007) (Impact Factor/Publications 9.228/9)

37-9. **M. Ayub,** *M. R. Anis and T Hayat: Slip effects on the flow of a third order fluid with variable suction,* **Meccanica, 42**(6), Dec (2007). *(ISI Impact Factor* **0.892**)

36-8. *Arshad M. Mirza, Anisa Qamar, M. Yaqub and* **M. Ayub**: *Formation of tripolar vortices in toroidal ion-temperature-gradient modes in the presence of dust contamination,* **Physics of Plasmas, 14**(8), Art. No. 083701, (2007). *(ISI Impact Factor* **2.475**)

35-7. *T. Hayat, F. Shahzad and* **M. Ayub**: *Analytical solution of the steady flow of the third grade fluid in a porous half space,* **Applied Maths. Modelling, 31,** *2424-2432, (2007). (ISI Impact Factor* **1.375**)

34-6. *T. Hayat, M. Sajid and* **M. Ayub**: *A note on series solution for generalized Couette flow,* **Communications in Nonlinear Science and Numerical Simulation, 12,** *1481-1487, (2007).*

33-5. *M. Khan, T. Hayat and* **M. Ayub**: *Numerical study of partial slip on the MHD flow of an Oldroyd 8-constant fluid,* **Computers and Mathematics with Applications, 53**, 1088-1097, (2007). *(ISI Impact Factor* **1.192**)

32-4. *T. Hayat, Masood Khan and* **M. Ayub**: *The effects of slip condition on the flows of an Oldroyd-6 constant fluid***, J. Com. App. Maths. 202** *402-413, (2007). (ISI Impact Factor* **1.292**)

31-3. *T. Hayat, F. Shahzad and* **M. Ayub**: *Stokes' first problem for the fourth order fluid in a porous half space,* **Acta Mechanica Sinica 23**, 17-21, (2007). *(ISI Impact Factor* **0.865**)

30-2. *F. Shahzad, M. Sajid, T. Hayat and* **M. Ayub**: *Analytic solution for flow of a micopolar fluid,* **Acta Mechanica, 188,** 93-102, (2007). *(ISI Impact Factor* **1.137**)

29-1. *M. Sadiq, Z. Ahmad and* **M. Ayub**: *A Comparative Study of Different Geodetic Boundary Value Solutions for Geoid with reference to its Calibration Using GPS/ Leveling Data, IBCAST-Conference (2007).*

(2006) (Impact Factor/Publications 2.652/3)

28-3. *T. Hayat, M. Khan, M. Sajid and* **M. Ayub**: *Steady flow of an Oldroyd 8-contant fluid between coaxial cylinders in a porous medium,* **J. Porous Media, 9**(8), 709-722, (2006). *(ISI Impact Factor* **0.684**)

27-2. *T. Hayat, Masood Khan and* **M. Ayub**: *Some analytical solutions for second grade fluid flows cylindrical geometries,* **Mathematical and Computer Modeling 43**, 16-29, (2006). *(ISI Impact Factor* **1.103**)

26-1. *S. Asghar, M. Mudassar Gulzar and* **M. Ayub**: *Effects of partial slip on flow of a third grade fluid,* **Acta Mechanica Sinica, 22**(5), 393-396, (2006). *(ISI Impact Factor* **0.865**

(2005) (Impact Factor/Publications 1.398/3)

25-3.   *T. Hayat, Masood Khan,* **M. Ayub** *and A.M. Siddiqui: The unsteady Couette flow of a second grade fluid in a porous medium,* **Archives of Mechanics, 57***(5), 405-416, (2005).*   *(ISI Impact Factor* **0.306***)*

24-2.   *T. Hayat, Masood Khan and* **M. Ayub***: On non-linear flows with slip boundary condition***, ZAMP, 56,** *1012-1029, (2005).*   *(ISI Impact Factor* **1.092***)*

23-1.   *E. E. Ashraf,* **M. Ayub** *and M. R. Mohyuddin: Stokes' problem for third grade fluid***, Engineering Journal of the University of Qatar Vol. 18,** *177-186, (2005).*

(2004)   (Impact Factor/Publications 3.709/3)

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