

## CURRICULUM VITAE

Name: Basilis Xanthopoulos

Personal Data: Born 1951, Drama, Greece  
Male, Single, Greek Citizenship

Education: 1969-1973: University of Thessaloniki,  
Thessaloniki, Greece  
June 73: B.S. Mathematics, Thessaloniki  
August 73 - Nov 74: Military Service  
January 75 - June 78: University of Chicago  
June 76: M.S. Physics  
June 78: Ph.D. Physics  
Advisor: Robert Geroch

Positions: January 75-June 75: Teaching Assistant,  
Department of Physics, University of Chicago.

July 75-June 78: Research Assistant, Enrico  
Fermi Institute, University of Chicago.

July 78-September 78: Research Associate,  
Enrico Fermi Institute, University of  
Chicago.

September 78-June 79: Visiting Assistant,  
Professor, Department of Physics, Montana  
State University.

July 79-December 79: Research Associate,  
Department of Physics, Syracuse University.

December 79-September 82: Chief Assistant,  
University of Thessaloniki, Greece.

April - June 80: Special Scientific  
Consultant, Harvard-Smithsonian Center for  
Astrophysics.

July - August 80: Visiting Scholar, Enrico  
Fermi Institute, University of Chicago.

June - September 81: Visiting Scientist,  
Max-Planck-Institut, Institut fur  
Astrophysik, Garching bei Munchen, West  
Germany.

September 82 - April 83: Assistant  
Professor, Department of Physics, University  
of Crete.

April 83 - Present : Associate Professor,  
Department of Physics, University of Crete.

June - September 84: Visiting Scholar,  
Enrico Fermi Institute, University of  
Chicago.

January - September 86 : Visiting Scientist,  
Enrico Fermi Institute, University of  
Chicago.

Publications:

1. "Asymptotic simplicity is stable", with R. Geroch. (J. Math. Phys. 19, 714, 1978).
2. "Exact vacuum solutions of Einstein's equation from linearized solutions". (J. Math. Phys. 19, 1607, 1978).
3. "Isometries compatible with asymptotic flatness at null infinity: A complete description" with A. Ashtekar. (J. Math. Phys. 19, 2216, 1978).
4. "A technique for generating solutions of Einstein's equation". (Proc. R. Soc. Lond. A365, 381, 1979).
5. "On the metric perturbations of the Reissner-Nordstrom black hole", with S. Chandrasekhar. (Proc. R. Soc. Lond. A367, 1, 1979).
6. "Generation of asymptotically flat, stationary spacetimes with any number of parameters", with C. Hoenselaers and W. Kinnersley (Phys. Rev. Lett. 42, 481 1979).
7. "Multipole moments in General Relativity". (Journ. Phys. A. 12, 1025, 1979).
8. "Symmetries of the stationary Einstein-Maxwell equations VI: Asymptotically flat spacetimes with arbitrary multipole moments", with C. Hoenselaers and W. Kinnersley. (J. Math. Phys. 20, 2539, 1979).
9. "Perturbations of spherically symmetric black holes". (Phys. Lett. 77A, 7, 1980).
10. "Gribov vacua and Einstein space-times". (Phys. Lett. 98B, 377, 1981).
11. "Exterior spacetimes for rotating stars", (J. Math. Phys. 22, 1254, 1981).

12. "Harmonic maps and self-dual SU(3) gauge fields". (J. Phys. A., 14, 1445, 1981).
13. "Reducible systems of linear differential equations". (Proc. R. Soc. Lond. A378, 61, 1981).
14. "Metric and electromagnetic perturbations of the Reissner - Nordstrom black hole". (Proc. R. Soc. Lond. A378, 73, 1981).
15. "A completely integrable system for the SU(3) Yang - Mills equations". (J. Phys. A., 15, L61, 1982).
16. "Axially symmetric, static Self-Dual SU(3) gauge fields and stationary Einstein - Maxwell metrics", with M. Gurses. (Phys. Rev. D, 26, 1912, 1982).
17. "Killing pairs and Newtonian integrals of motion". (Lett. Math. Phys. 6, 199, 1982).
18. "The Planar Inverse Problem for Autonomous Systems", with G. Bozis, (Dynamical Trapping and Evolution in the Solar System, V. Markellos and Y. Kozai, eds., D. Reidel Publ. Co., p.353, 1983).
19. "Local Toroidal Black Holes that are static and axisymmetric", (Proc. R. Soc. Lond. A388, 117, 1983).
20. "Spherical and Toroidal Local Black Holes", (In Early Evolution of the Universe and its Present Structure, G.O. Abell and G. Chincarini, Eds., D. Reidel Publ. Co., p.425, 1983).
21. "The Planar inverse problem with four monoparametric families of curves", with G. Bozis, (Astron. Astrophys. 122, 251, 1983).
22. "The Optical scalars in Kerr-Schild-type spacetimes", (Ann. of Physics, 149, 286, 1983).
23. "Harmonic mappings and SU(N) self-dual Yang-Mills fields", with M. Gurses and R. Jantzen, (J. Phys. A: Math. Gen., 16, L635, 1983).
24. "On Petrov type N vacuum solutions of the Einstein equations", (Phys. Lett. 99A, 304, 1983).
25. "Integrals of motion and analytic functions", (J. Phys. A: Math. Gen. 17, 87, 1984).



26. "Classical aspects of Yang-Mills theories", (Solutions of Einstein's Equations: Techniques and Results, Lecture Notes in Physics 205, Proceedings, Retzbach, Germany 1983, C. Hoenselaers and W. Dietz, Eds., p.235, 1984).
27. "Local Black Holes are type D on the Horizon", with D. Papadopoulos, (IL Nuovo cimento 83B, 113, 1984).
28. "A Geometric notion of complete Integrability", (Phys. Lett. 105A, 334, 1984).
29. "On colliding waves in the Einstein-Maxwell theory", with S. Chandrasekhar, Proc. Royal Soc. London, A398, 223, (1985).
30. "Superposition of solutions in General Relativity", Lecture Notes in Physics 239 "Geometric Aspects of the Einstein Equations and Integrable Systems", R. Martini, Ed., p.109, (1985).
31. "Symmetries and Solutions of the Einstein equations", (Lecture Notes in Physics 239 "Geometric Aspects of the Einstein Equations and Integrable Systems", R. Martini, Ed., p.77, (1985).
- 86.1 (32). "Linear Superposition of solutions of the Einstein-Maxwell equations", Classical and Quantum Gravity, 3, 157, (1986).
- ~~32~~ 33. "On the collision of impulsive gravitational waves coupled with fluid motions", with S. Chandrasekhar, Proc. Royal Society London, A402, 37, (1985).
34. "Some exact solutions of Gravitational waves coupled with fluid motions", with S. Chandrasekhar, Proc. Royal Society London, A402, 205, (1985).
- 86.2 (35). "On the collision of impulsive gravitational waves when coupled with null dust", with S. Chandrasekhar, Proc. Royal Society London, A403, 189, (1986).
- 86.3 du 36. "The collision of plane waves in General Relativity", to appear in Proc. of Intern. Seminar on Mathematical Physics, M. Koca and G. Onengut, Eds., (1986).
- 86.4 (37). "Solutions with perfect fluids and predetermined equation of state", Phys. Lett. A116, 149, (1986).

86.5 (38) "The initial value problem for colliding gravitational and hydrodynamic waves", Journal of Math. Phys. 27, 2129, (1986).

86.6 (39) "A rotating cosmic string", to appear in Phys. Lett. B, (1986).

86.7 40. "A new type of singularity created by colliding gravitational waves", with S.Chandrasekhar, to appear in Proc. R.Soc. Lond. (1986).

86.8 41. "On colliding waves that develop time-like singularities : A new class of solutions of the Einstein-Maxwell equations", with S. Chandrasekhar, to appear in Proc. R.Soc. Lond. (1987).

86.9 42. "Perfect fluids satisfying a less than extremely relativistic equation of state", (submitted to J. Math. Phys.).

86.10 43. "Cylindrical waves and cosmic strings of Petrov type D", to appear in Phys. Rev. D. (1987).

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