LETTERS TO PROGRESS IN PHYSICS

Nikias Stavroulakis (1921–2009). In Memoriam

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This paper was written by Dr. Ioannis M. Roussos, Professor of Mathematics, Hamline University at Saint Paul, Minnesota, in honor and memoriam of the late Dr. Nikias Stavroulakis, Professor of Mathematical Physics. The included information is particularly based on the publications of the late professor, and was particularly collected through the various types of communication (personal visits with lengthy and extensive discussions, professional meetings, letters, telephone-calls, words of relatives and friends, etc.) Dr. Roussos had with and about him in the last 14 years. Dr. Roussos first met Dr. Stavroulakis in the 3rd Panhellenic Congress of Geometry, University of Athens, Greece, May 1996, and they became friends ever since.

Prof. Nikias Stavroulakis, Limoges, France, 1980.

Nikias Stavroulakis was born at the village Thronos Rethymnes of the Island of Crete, Greece, on October 2, 1921. In 1938 he finished high school (Lyceum) and then entered the National Technical University (E. M. Polytechnion), Athens, Greece, where he studied Civil Engineering.

Although World War II interrupted the smooth course of his studies, destroyed his country, and he escaped execution by the Nazis on account of their defeat and hasty retreat for a time-span of just a few days, he managed to continue his studies after the war was over, in 1945. He graduated from the National Technical University (E. M. Polytechnion), Athens, Greece, in 1947.

During the years 1949–1963 he worked as a civil engineer in Greece. His work, as civil engineer, was done under extremely trying and bad conditions, civil war, imprisonment, great difficulties and political turmoil, struggle and pressure.

The year 1963, he was released from a Greek prison in which he was kept because of ideological believes and political reasons, and went to Paris, France, to pursue graduate studies in mathematics. He eventually received Doctorat d'Etat from Faculté des Sciences of Paris in 1969. His advisor was the famous professor Charles Ehresmann. His dissertation was entitled *Substructure of Differentiable Manifolds and Riemannian Spaces with Singularities*.

Then, he was immediately hired as a professor of mathematics by the University of Limoges, France, from which he retired the year 1990. On his retirement he returned to Athens, Greece, where he mainly stayed and continued his research until the end of his life.

He is the author of numerous papers related to the subjects of: Geometry, algebraic topology, differential geometry, optimization problems, mathematical physics and general relativity. His scientific work and contributions were recognized internationally from the beginning.

Although he had retired for several years, he continued his scientific and mathematical research up to the end of his life in December 2009 at the ages of 88. His main purpose was to restore the theory of gravitational field by pointing out the misunderstandings and correcting the mathematical errors committed by relativists since the inception of general relativity and thus rejecting them right from the beginning of his carrier.

Unfortunately he died on the 20th of December 2009, due a chronic aneurism in the abdominal area. At that time he was working on several papers, but his untimely death left them unfinished. As he had told me, among other things, he was planning to write a few things about the use of the polar coordinates beyond those he had already exposed in his already published papers, write some expository papers and above all to finish especially the important paper *On the Filed of a Spherical Charged Pulsating Distribution of Matter*, which will appear (as he left it unfinished), as his sixth publication in the journal *Progress in Physics*. He will be greatly missed from his friends and scientific collaborators.
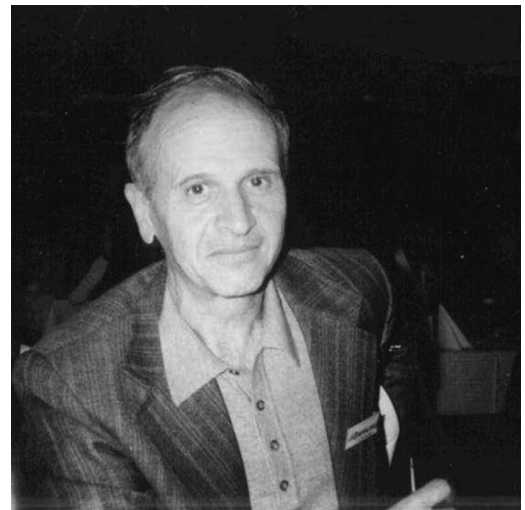
Nikias Stavroulakis at the age of 4 years, outside his house at the village Thronos, Crete, Greece, 1925.

Nikias Stavroulakis (center, 6th from the left in the middle row), with his classmates and teachers of the last grade of Lyceum of Rethymno, Crete, Greece, 1938.

Nikias Stavroulakis and Salomi in their wedding, Athens, Greece, 1958.

Prof. Nikias Stavroulakis on the 10th International Conference on General Relativity and Gravitation in Padova, Italy, July 4–9, 1983.

He was married to Salomi, who died four years earlier, with whom he had a daughter, Eleni.

Besides being a great, well published, voluminous and original scientist, Nikias Stavroulakis was always the polite man of principle and humility; seeking the truth and never being afraid to say *"we do not know yet"*, when something was unknown, elusive or simply surmised.

Dr. Nikias Stavroulakis was Professor at Université de Limoges, Département de Mathématique, France, and Member of Faculté des Sciences de Limoges, U. E. R. des Sciences de Limoges and then Emeritus during his time of research in relativity and gravitation. He made an extensive and advanced contribution in:

1) the Birkhoff theorem in General Relativity;

2) the indiscriminate use of the polar coordinates, before knowing what the manifold in which we work is;

3) the static and dynamical field of a pulsating spherical mass;

4) the theory of black holes and the Big Bang theory.

Nikias Stavroulakis' publications on mathematical physics and General Relativity

1. A statical smooth extension of Schwarzschild's metric. *Lettere al Nuono Cimento*, 1974, v. 11, no. 8, 427–430.

2. Paramètres cachés dans les potentials des champs statiques. *Annales de la Fondation Louis de Broglie*, 1981, v. 6, no. 4, 287–327.

3. Mathématiques et trous noirs. *Gazette des mathematiciens*, Juillet 1986, no. 31, 119–132.

4. Solitons et propagation d'actions suivat la relativité générale. (Premième partie). *Annales de la Fondation Louis de Broglie*, 1987, v. 12, no. 4, 443–473.

5. Solitons et propagation d' actions suivat la relativité générale. (Deuxième partie). *Annales de la Fondation Louis de Broglie*, 1988, v. 13, no. 1, 7–42.

6. Sur quelques points de la theorie gravitationnelle d'Einstein. *Tiré à part de Sinsularité*, Lyon, France, Aout–Septembre 1991, v. 2, no. 7, 4–20.

7. Particules et particules test en relativité générale. *Annales de la Fondation Louis de Broglie*, 1991, v. 16, no. 2, 129–175.

8. Sur la function de propagation des ébranlements gravitationnels. *Annales de la Fondation Louis de Broglie*, 1995, v. 20, no. 1, 1–31.

9. On the principles of general relativity and the $S\Theta(4)$-invariant metrics. *Proceedings of the 3rd Panhellenic Congress of Geometry*, Athens, Greece, 1997, 169–182.

10. Vérité scientifique et trous noirs (première partie). Les abus du formalisme. *Annales de la Fondation Louis de Broglie*, 1999, v. 24, no. 1, 67–109.

11. Vérité scientifique et trous noirs (deuxmième partie). Symétries relatives au groupe des rotations. *Annales de la Fondation Louis de Broglie*, 2000, v. 25, no. 2, 223–266.

12. Vérité scientifique et trous noirs (troisième partie). Équations de gravitation relatives à une métrique $\Theta(4)$-invariante. *Annales de la Fondation Louis de Broglie*, 2001, v. 26, no. 4, 605–631.

13. Vérité scientifique et trous noirs (quatrième partie). Determination de métriques $\Theta(4)$-invariantes. *Annales de la Fondation Louis de Broglie*, 2001, v. 26, no. 4, 743–764.

14. Matière cachée et relatitité générale. *Annales de la Fondation Louis de Broglie*, 2001, v. 26, no. spécial, 411–427.

15. On a paper by J. Smoller and B. Temple. *Annales de la Fondation Louis de Broglie*, 2002, v. 27, no. 3, 511–521.

16. Non-Euclidean geometry and gravitation. *Progress in Physics*, 2006, v. 2, 68–75.

17. On the propagation of gravitation from a pulsating source. *Progress in Physics*, 2007, v. 2, 75–82.

18. On the gravitational field of a pulsating source. *Progress in Physics*, 2007, v. 4, 3–8.

19. Gravitation and electricity. *Progress in Physics*, 2008, v. 2, 91–96.

20. On the stationary charged spherical source. *Progress in Physics*, 2009, v. 2, 66–71.

21. General Relativity and black holes. *The Hellenic Mathematical Review*, January–June 2009, no. 71, 43–83 (*in Greek*).

22. On the field of a spherical charged pulsating distribution of matter. *Progress in Physics*, 2010, v. 4, 72–77.