

Róża Michalska-Trautman (1932–2015)

Róża Michalska was born on August 2, 1932, in Suchodoły, a small village near Lublin. Her parents, Wojciech Michalski and Róża Ksawera née Deskur, had some land and a mansion there. Róża had a sister and three brothers. In 1944, the whole Michalski family was forced to leave their home; they moved to Kraków, where Róża attended school and, in 1950, obtained the high school diploma (matura). She then started studying physics at the Jagiellonian University. After three years, she moved to Warsaw, where she continued studies in theoretical physics at the university there.

After graduating, in 1955, Róża became a Ph.D. student, working under the supervision of Leopold Infeld on the general-relativistic problem of rotating, gravitating bodies [1]. For this research she obtained a Ph.D. degree in 1961. Soon afterwards, Róża became an assistant professor (adiunkt) in the Institute of Physics of the Polish Academy of Sciences. After habilitation, in 1983, she was promoted to the rank of associate professor. For several years she worked on the problem of gravitational radiation [2], finally succeeding to convince Infeld of its existence [3, 4].

Andrzej Trautman was her colleague in Infeld's group. In 1961, Róża and Andrzej spent a few months at Syracuse University, at the invitation of Peter G. Bergmann. In 1962, Róża and Andrzej were married in a church in Kraków. Their first son, Paweł, was born in 1963. Krzysztof, born in 1965, died tragically in 1992.

Around 1972 Róża started to work on problems in non-linear optics. In particular, she studied the self-induced transparency in the presence of a Kerr nonlinearity, the formation of an optical breather, and aspects of superfluorescence.

Ill health restricted her activity in later years. After a long struggle with cancer, Róża died on July 20, 2015.

Among the notes she left was a manuscript of an unpublished paper, written in the 1990s. It has been now prepared for publication with the kind help of Professors Mariusz Gajda and Heinz Steudel. It is included in this issue of *Acta Physica Polonica A* [13].

List of publications

- [1] Action principle for the motion of rotating bodies in the general theory of relativity, *Bull. Acad. Polon. Sci. Ser. Sci. Math. Astr. Phys.* **8**, 237 (1960).
- [2] The equations of motion of rotating oblate bodies in the general theory of relativity, *Bull. Acad. Polon. Sci. Ser. Sci. Math. Astr. Phys.* **8**, 247 (1960).
- [3] (with L. Infeld) On the mechanics of radiation, *Ann. Phys.* **40**, 374 (1966).
- [4] (with L. Infeld) The two-body problem and gravitational radiation, *Ann. Phys.* **55**, 561 (1969).
- [5] (with L. Infeld) Radiation from systems in nearly periodic motion, *Ann. Phys.* **55**, 576 (1969).
- [6] Propagation of the average carrier frequency of chirped pulses, *J. Phys. A Math. Gen.* **9**, 1719 (1976).
- [7] Self-induced transparency in the presence of the Kerr nonlinearity, *Phys. Rev. A* **17**, 1761 (1978).
- [8] Spectral moments in coherent resonant propagation, *Phys. Rev. A* **22**, 2738 (1980).
- [9] Exact solution of the initial eigenvalue problem for coherent pulse propagation, *Phys. Rev. A* **23**, 352 (1981).
- [10] Formation of an optical breather, *J. Opt. Soc. Am. B* **6**, 36 (1989).
- [11] Conservation laws in superfluorescence, *Phys. Rev. A* **46**, 7270 (1992).
- [12] (with A. Trautman) Chandra's Visits to Poland, pages 210–212, in: S. Chandrasekhar, *The Man Behind the Legend*, Ed. K.C. Wali, Imperial College Press, 1997.
- [13] Propagation effects in superfluorescence, *Acta Phys. Pol. A* **130**, 734 (2016).