

## PUBBLICAZIONI:

### Libri:

- S. Albeverio, R. Høegh-Krohn, S. Mazzucchi. *Mathematical theory of Feynman path integrals - An Introduction*. 2<sup>nd</sup> corrected and enlarged edition, Lecture Notes in Mathematics, Vol. 523. Springer, Berlin, 2008.
- S. Mazzucchi. *Mathematical Feynman Path Integrals and Their Applications*. World Scientific, Singapore, 2009.
- F. Bigolin e S. Mazzucchi. *Esercizi di Calcolo Differenziale e Integrale vol.1. Funzioni di una variabile reale*. ARACNE editrice (2011)

### Articoli su rivista e contributi a libri:

- S. Mazzucchi. *On the observables describing a quantum reference frame*. J. Math. Phys. **42** 2477-2489 (2001)
- S. Albeverio, G. Guatteri, S. Mazzucchi. *Phase space Feynman path integrals*. J. Math. Phys. **43** 2847-2857 (2002)
- S. Albeverio, G. Guatteri, S. Mazzucchi. *A representation of the Belavkin equation via Feynman path integrals*. Probab. Theory Relat. Fields **125**, 365-380 (2003).
- S. Albeverio, G. Guatteri, S. Mazzucchi, *A representation of the Belavkin equation via phase space Feynman path integrals*, Infin. Dimens. Anal. Quantum Probab. Relat. Top. **7** (2004), no. 4, 507-526.
- S. Albeverio and S. Mazzucchi. *Generalized infinite-dimensional Fresnel integrals*. C. R. Acad. Sci. Paris **338** n.3, 255-259, (2004).
- S. Albeverio and S. Mazzucchi. *Some New Developments in the Theory of Path Integrals, with Applications to Quantum Theory*. J. Stat. Phys. **115** n.112, 191-215, (2004).
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- S. Albeverio, S. Mazzucchi, *Feynman path integrals for polynomially growing potentials* J. Funct. Anal. **221** no. 1 (2005), 83-121.
- S. Mazzucchi, *Feynman path integrals* Encyclopedia of Mathematical physics, eds. J.P. Francoise, G.L. Naber and Tsou S.T. Oxford: Elsevier, 2006, (ISBN 978-0-1251-2666-3), volume 2 page 307.

- S. Albeverio, S. Mazzucchi, *Feynman path integrals for the time dependent quartic oscillator*, C. R. Math. Acad. Sci. Paris 341 (2005), no. 10, 647–650.
- S. Albeverio, S. Mazzucchi, *The time dependent quartic oscillator - a Feynman path integral approach*. J. Funct. Anal. 238,471-488 (2006)
- S. Albeverio, L. Cattaneo, L. Di Persio, S. Mazzucchi, *A rigorous approach to the Feynman-Vernon influence functional and its applications. I*. J. Math. Phys. 48 (2007), no. 10, 102109.
- S. Mazzucchi, *Feynman path integrals for the inverse quartic oscillator*. J. Math. Phys. 49, n. 9 (2008), 093502 (15 pages).
- S. Albeverio, S. Mazzucchi, *An asymptotic functional-integral solution for the Schrödinger equation with polynomial potential*, J. Funct. Anal. 257 (2009), no. 4, 1030–1052.
- S. Albeverio, S. Mazzucchi, *Infinite dimensional oscillatory integrals with polynomial phase function and the trace formula for the heat semigroup*. From probability to geometry. Volume in honour of the 60th birthday of Jean-Michel Bismut. Astérisque 327 (I), (2009), 17-45.
- G. Greco, S. Mazzucchi and E. Pagani, *Peano on derivative of measures: strict derivative of distributive set functions*. Atti Accad. Naz. Lincei Cl. Sci. Fis. Mat. Natur. Rend. Lincei (9) Mat. Appl. 21 (2010), no. 3, 305339.
- S. Mazzucchi. *Functional-integral solution for the Schrödinger equation with polynomial potential: a white noise approach*. to appear in *Infin. Dimens. Anal. Quantum Probab. Relat. Top.* (2011).

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- S. Mazzucchi, *Some new developments in Feynman path integrals and applications* in *Proceedings of the XIV International Congress of Mathematical Physics* 505–511, World Sci. Publ., Hackensack, NJ, 2005.
- S. Albeverio, S. Mazzucchi, *Integrali di Cammino di Feynman e Misurazione Quantistica*, in *Atti del colloqui di Matematica 2001-2003*, Note di matematica e fisica, Edizioni Cerfim Locarno, anno 16, vol. 12, 123-156, 2003.
- S. Albeverio and S. Mazzucchi, *Feynman path integrals for time-dependent potentials*. "Stochastic Partial Differential equations and Applications" Proceedings of the VIII Conference held in Trento, January 2004. Edited by G. Da Prato and L. Tubaro.
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In: Fauser B., Tolksdorf J. Zeidler E. (eds.) *Quantum Field Theory: Competitive Models*. Birkhauser Boston (2008) pag. 49-66.
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To appear in: Proceedings of the Ascona conference 2008.

#### **Preprints:**

- S. Mazzucchi, *Probabilistic representations for the solution of higher order differential equations*.  
Preprint of the University of Trento. UTM 749 (2011)

#### **Ulteriori lavori:**

- Autore e curatore, su invito, dell'articolo *Path integral: mathematical aspects* su *Scholarpedia*:  
[http://www.scholarpedia.org/article/Path\\_integral:\\_mathematical\\_aspects](http://www.scholarpedia.org/article/Path_integral:_mathematical_aspects)
- L. Menegotti, A. Delana, A. Martignano, S. Mazzucchi.  
*Inhomogeneity correction method for radiochromic film scanned by a flat-bed scanner for IMRT plan verification*.  
sottomesso a *Medical Dosimetry*.  
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