

Publications of

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# 1 Refereed articles on international reviews

## 1.1 Proton-nucleus elastic scattering (1973-1982)

- [1] G.Bendiscioli, E.Lodi Rizzini, **A.Rotondi** and A.Venaglioni: *Elastic scattering at small angles of Protons*, Nucl. Phys. A307(1978)22
- [2] G.Bendiscioli, E.Lodi Rizzini and **A.Rotondi**: *Coulomb Multiple Scattering in the Presence of Nuclear Effects*, Nuovo Cim. 48A(1978)369
- [3] G.Bendiscioli, E.Lodi Rizzini, C.Marciano, **A.Rotondi** and A.Venaglioni: *Elastic scattering below 3<sup>0</sup> of 36.2 and 21 MeV Protons by Al, Fe, Ni and Cu isotopes* Lett. Nuovo Cim. 30(1981)88
- [4] G.Bendiscioli, E.Lodi Rizzini, **A.Rotondi** and A.Venaglioni: *Coulomb Multiple Scattering of Heavy Particles*, Nuovo Cim. 68A(1982)101

## 1.2 PS179 experiment (TOFRADUPP) (1984-1991)

- [5] Yu.A.Batusov et al (21 autori): *restriction on Amount of Antimatter In the Early Universe from  $\bar{p} - {}^4He$  Reaction Data*, Lett. Nuovo Cim. 41(1984)223
- [6] F. Balestra et al (23 autori):  *$\bar{p} - {}^4He$  Reaction Cross Section at 610 MeV/c*, Phys. Lett. 149B(1984)69
- [7] F. Balestra et al (21 autori): *Inelastic Interaction of Antiprotons with  ${}^4He$  Nuclei Between 200 and 600 MeV/c*, Phys. Lett. 165B(1985)265
- [8] Yu.A.Batusov et al (20 authors): *Antiproton Annihilation on Ag/Br Nuclei*, Europhys. Lett. 2(1986)115
- [9] F. Balestra et al (24 authors): *Low Energy Antiproton Neon Interaction*, Nucl. Phys. A452(1986)573
- [10] F. Balestra et al (30 authors): *Annihilations of Antiprotons at rest in  ${}^3He$  and  ${}^4He$* , Nucl. Phys. A474(1987)651
- [11] F. Balestra et al (19 authors): *Determination of the ratio  $\sigma(\bar{p}n)/\sigma(\bar{p}p)$  from  $\bar{p} - {}^4He$  Reaction data*, Nucl. Phys. A465(1987)714

- [12] F. Balestra et al (22 authors):  *$\bar{p} - {}^4He$  break-up Cross Section at 180 MeV*, Phys. Lett. B194(1987)343
- [13] F. Balestra et al (27 authors): *Neutral Strange Particle Production in  $\bar{p} - Ne$  Reactions at 607 MeV/c*, Phys. Lett. B194(1987)192
- [14] F. Balestra et al (27 authors): *Light Nucleus Production in  $\bar{p} - {}^4He$  annihilation between 0 and 600 Mev/c* Nuovo Cim. 100A(1988)323
- [15] F. Balestra et al (30 authors):  *$\bar{p} - {}^4He$  Reaction Cross Section at 200 MeV/c*, Phys. Lett. B215(1988)247
- [16] F. Balestra et al (31 authors): *Antiproton-Helium Annihilation around 45 MeV/c*, Phys. Lett. B230(1989)36
- [17] F. Balestra et al (30 authors): *Evidence of Isospin Effects in Antiproton-Nucleus annihilation*, Nucl. Phys. A491(1989)572
- [18] F. Balestra et al (28 authors): *An observation of Leading Meson in  $\bar{p} - Ne$  Reaction at 607 Mev/c Incident momentum*, Phys. Lett B217(1989)43
- [19] F. Balestra et al (34 authors): *Production of  $\Lambda$  hyperons and  $K_S^0$  mesons in annihilation of antiprotons in  ${}^4He$  nuclei at 600 MeV/c*, Sov J. Nucl. Phys. 50(1989)945
- [20] F. Balestra et al (28 authors): *Antiproton-Neon Interaction at rest and at 607 MeV/c*, Nucl. Phys. A491(1989)541
- [21] G.Bendiscioli, V.Filippini, **A.Rotondi** et al (32 authors): *Pionic Annihilation of Antiproton stopped in  ${}^3He$* , Nucl. Phys. A518(1990)683
- [22] Yu.A.Batusov et al. (34 authors): *Elastic scattering of antiprotons by  ${}^4He$  at 600 MeV/c*, Sov. J. of Nucl. Phys. 52(1990)776
- [23] F. Balestra et al (36 authors): *Note on  $\bar{s}s$  production in  $\bar{p}$ -Nucleus Reactiona at 607 MeV/c Incident Momentum*, Physica Scripta 42(1990)263

- [24] F. Balestra et al (36 authors): *Lambda-Kaon Relative Production in  $\bar{p}$ -Nucleus Reactions in terms of a quark Recombination diagram*,  
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- [25] F. Balestra et al (32 authors): *Strangeness Production In Antiproton Annihilation at rest in  ${}^3He$ ,  ${}^4He$  and  ${}^{20}Ne$* ,  
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- [26] F. Balestra et al (36 authors): *Evidence for Leading Mesons in  $\bar{p} - {}^4He$  Reactions at 0.6 GeV/c Incident Momentum*,  
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- [27] F. Balestra et al. (35 authors), *Possible Production of Glueballs in  $\bar{p} - {}^4He$  Reactions at 0.6 GeV/c Incident momentum*,  
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### 1.3 OBELIX Experiment PS201(from 1991) (75-85 authors per publication)

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- [30] M. Adamo et al, *First physics results from OBELIX*,  
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- [31] A. Adamo et al, *Meson spectroscopy with antineutrons*,  
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- [32] A. Adamo et al, *A measurement of the  $K^+K^-/\pi^+\pi^-$  ratio from  $\bar{p}$  annihilation in deuterium and hydrogen gas*,  
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- [33] A. Adamo et al, *Protonium annihilation in P-wave using low-density ( $\rho/\rho_0 \simeq 10^{-3}$ ) hydrogen targets. Measurements of cascade times and widths*,  
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- [34] V.G. Ableev et al, *A new measurement of the Pontecorvo reaction  $\bar{p}d \rightarrow \pi^- p$  with the OBELIX spectrometer at LEAR*,  
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- [35] A. Adamo et al, *Antiprotons stopping power in hydrogen below 120 KeV and the Barkas effect*,  
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- [36] M. Agnello et al, *Measurement of the frequency of the annihilation reaction  $\bar{p}p \rightarrow \pi^0 \pi^0$  in a NTP hydrogen target,*  
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- [37] V.G. Ableev et al, *Measurement of the  $\bar{p}p \rightarrow \pi^+ \pi^-$  and  $\bar{p}p \rightarrow K^+ K^-$  annihilation frequencies in a 5 mbar hydrogen gas target,*  
*Phys. Lett.* B329(1994)407
- [38] V.G. Ableev et al, *A study of Pontecorvo reactions in antiproton deuterium annihilations at rest,*  
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- [39] V.G. Ableev et al,  $\Phi$  and  $\omega$  production in  $\bar{n}p$  annihilation and the OZI rule,  
*Phys. Lett.* B334(1994)237
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- [41] V.G. Ableev et al, *Annihilation cross-section of antineutrons on C, Al, Cu, Sn and Pb at low momenta (180 – 280 MeV/c) with the OBELIX spectrometer,*  
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- [42] A. Adamo et al, *Changes in the annihilation's delay time distribution of stopped antiprotons in helium gas, due to contaminants - I,*  
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- [43] V.G. Ableev et al, *Measurement of the  $\bar{p}d$  annihilation at rest,*  
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- [44] M. Agnello et al, *Antiproton slowing down in  $H_2$  and He and evidence of nuclear stopping power,* Phys. Rev. Lett. 74(1995)371
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- [46] A.Bertin et al.,  *$E/\iota$  decays to  $K\bar{K}\pi$  in  $\bar{p}p$  annihilation at rest,*  
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- [51] A.Bertin et al., *Exotic trapping of antiprotons in  ${}^4He$ : dependence on pressure,*  
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- [53] A. Bertin et al, *A search for axial vectors in  $\bar{p}p \rightarrow K^\pm k_{miss}^0 \pi^\mp \pi^+ \pi^-$  annihilations at rest in gaseous hydrogen at NTP,*  
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- [55] A.Bertin e et al., *New data on  $\Delta^{++}$  baryon production in  $\bar{p}d$  annihilation at rest,*  
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- [57] A Bertin e et al., *Study of  $\bar{n}p$  annihilation into two mesons in the momentum range between 50 and 400 MeV/c with OBELIX,*  
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- [59] A. Bertin et al., *Study of the  $f_0(1500)/f_2(1565)$  production in the exclusive annihilation  $\bar{n}p \rightarrow \pi^+ \pi^+ \pi^-$  in flight,*  
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- [65] A.Zenoni et al, OBELIX coll.,  *$\bar{p}D$  and  $\bar{p} - {}^4He$  annihilation cross sections at very low energy*, Phys. Lett. B461 (1999) 413
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- [67] A. Filippi et al, *Study of  $\bar{n}p \rightarrow \phi\pi^+$  and  $\bar{n}p \rightarrow \omega\pi^+$  annihilation reaction in flight* Nucl. Phys. A655(1999)453
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- [79] M. Bertin et al., OBELIX Coll., *Dynamical selection rules from  $\bar{p}p$  annihilation at rest in three meson final states* Eur. Phys. J. C 35(2004)177
- [80] P. Salvini et al., OBELIX Coll.,  *$\bar{p}p$  annihilation into four charged pions at rest and in flight*, Eur. Phys. J. C 35(2004)21
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- [82] G. Bendiscioli, A. Fontana, L. Lavezzi, A. Panzarasa, A. Rotondi, T. Bressani, *Search for signals of bound  $\bar{K}$  nuclear states in antiproton  ${}^4He$  annihilations at rest*, Nucl.Phys.A 789(2007)222.
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#### 1.4 ATHENA experiment (1997-2005) (25-30 authors per publication)

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- [98] R. Funakoshi et al., ATHENA Coll., *Positron plasma control techniques for the production of cold antihydrogen*, Phys. Rev A 76(2007)012713

1.5 AEGIS experiment (from 2004)  
(about 50 authors per publication)

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- [100] D. Farbris et al.: *The AEGIS detection system for gravity measurements*. Nucl.Phys. A834(2010)751C. (refereed Conference)

1.5 PANDA experiment (from 2004)  
(about 400 authors per publication)

- [101] S. Costanza et al: *The straw tube tracker of the PANDA experiment*, Nucl.Instrum.Meth.A617(2010).

### 1.5 Particle detectors and experimental appara (from 1975)

- [102] G.Bendiscioli, E. Lodi Rizzini, C. Marciano, **A. Rotondi** and A.Venaglioni: *Experimental set-up for Asymmetry mesurements in the Elastic Scattering at Small Angles ( $< 10^0$ ) of 40 MeV Polarized Protons*, Nucl.Instr. and Meth. 124(1975)397
- [103] G.Bendiscioli, V.Filippini, G.Fumagalli, E. Lodi Rizzini, C. Marciano, C. Milani, **A. Rotondi** and A.Venaglioni: *Study of a thin Scintillator Detector*, Nucl.Instr. and Meth. 206(1983)471
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- [105] F. Balestra et al. (26 authors): *Experimental Apparatus for Studying the Interaction of Antiprotons with Light Nuclei*, Nucl.Instr. and Meth. 234(1985)30
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### 1.6 Methods of analysis of nuclear rections

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Phys. Rev. D51(1995)2247

## 1.7 Data Analysis, calculus and Monte Carlo Methods

- [118] **A. Rotondi**: *The Use of Fourier Series in the Deconvolution of Experimental Curves*,  
Nucl. Instr. and Meth. 142(1977)499
- [119] **A. Rotondi** and P. Montagna: *Fast Calculation of Vavilov Distribution*,  
Nucl. Instr. and Meth. B47(1990)215
- [120] E.Calligarich, R.Dolfini, M.Genoni and **A.Rotondi**: *A fast algorithm for vertex estimation*,  
Nucl. Instr. and Meth. A311(1992)151
- [121] Andrea Fontana, P. Genova, L. Lavezzi, A. Panzarasa, **A. Rotondi**, M. Al-Turany, D. Bertini, *Use of GEANE for tracking in virtual Monte Carlo*  
J.Phys.Conf.Ser. 119(2008)032018, (referred Conference).
- [122] **A. Rotondi**: *On frequency and efficiency measurements in counting experiments*,  
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## 2 Talks personally presented at Conferences

- [123] **A.Rotondi**, TOFRADUPP Collaboration: *Low Energy Antiproton Interaction with Light Nuclei*,  
in Nuclear and Particle Physics at Intermediate Energies with Hadrons, SIF  
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- [124] G.Bendiscioli and **A.Rotondi**, *Antinucleus-Nucleus experiments*,  
Invited talk at the European Workshop on Few-Body Physics, Rome, October 7-11, 1986, Few Body Syst. Suppl. 1(1986)526
- [125] **A.Rotondi**, *Analysis of Meson Resonances in Low Energy  $\bar{N}N$  annihilation*, invited talk in Common Problems and Trends of Modern Physics, 7th Winter School on Hadronic Physics, Folgaria, february 1992, T.Bressani, S.Marcello and A.Zenoni eds, World Scientific, (1992) pp. 183-200.
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invited talk at the 2-nd biennal Conference on Low Energy Antiproton Physics (LEAP 92), Curmayeur, 14-19 Sept 1992, Nucl. Phys. A558(1993)235c-256c
- [127] **A.Rotondi**,  *$\bar{p}p$  annihilation at rest from protonium states*,  
invited talk at the 6th workshop on EXOTIC ATOMS, MOLECULES AND THEIR INTERACTIONS, Erice, 21-30 march 1994 edited by Rizzo/Zavattini INFN Trieste Report (1995)251-266
- [128] **A.Rotondi**, OBELIX Collaboration, *Meson Spectroscopy Results from OBELIX*,  
PANIC96, 14th Int. Conf. on Particle and Nuclei, edited by Carlson/Domingo, World Scientific, (1996)508-510
- [129] **A.Rotondi**, OBELIX Collaboration, *Recent Results from OBELIX*,  
HADRON97, Seventh Int. Conf. on Hadron Spectroscopy, edited by Chung/Willutzki AIP Conf. Proceedings 432 (1998)691-700
- [130] **A. Rotondi Pseudoscalar Mesons**, Convener talk at the Workshop on Hadron Physics, Frascati, 8-12 march 1999, Frascati Physics Series **15**(1999)670, T. Bressani, A. Feliciello, A. Filippi eds.
- [131] **A. Rotondi Low Energy Antiproton Physics: LEAP 2000 summary talk**,  
Nucl. Phys. A692(2001)397
- [132] **A. Rotondi** et al., ATHENA Collaboration (35 authors), *Results from ATHENA*, Proceedings of LEAP05, Edited by D. Grzonka et al., Bonn, May 2005, page 285

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### 3 Proposals

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