

# Curriculum in lingua italiana dell'attività scientifica e didattica di Davide Meloni

## 1. Titoli Accademici

- **Diploma di scuola superiore** presso il "Liceo Scientifico G. Sulpicio" , Alatri (Fr), Luglio 1994  
Voto: 60/60.
- **Laurea** in Fisica presso Università di Roma "La Sapienza", 16 Dicembre 1999  
Voto: 110/110 "cum laude"  
Tesi: "  $K^0 - \bar{K}^0$  mixing in the Standard Model and in Supersymmetry "  
Relatore: ██████████
- **PhD** in Fisica presso l' Università di Roma "La Sapienza", 31 Gennaio 2003  
Tesis: "The Neutrino Factory project and the leptonic CP violation "  
Relatore: ██████████
- **Idoneità INFN in Fisica Teorica**  
bando 13154/2009, Luglio 2009.
- **Abilitazione Professore Associato**  
art.16 Leg. 240/2010, dall' 08/01/2014 all' 08/01/2020.
- **Abilitazione Professore Ordinario**  
art.16 Leg. 240/2010, dal 13/07/2018 al 13/07/2024.

## 2. Carriera Scientifica

- **Posizione Post-dottorale** di 2 anni presso Università di Granada (Spagna), Dipartimento de Fisica Teorica e del Cosmo,  
Novembre 2002 - Ottobre 2004.
- **Assegno di Ricerca INFN** presso la sezione di Roma I,  
Gennaio 2005- Gennaio 2007
- **Assegno di Ricerca** presso il Dipartimento di Fisica dell' Università degli Studi di Roma Tre  
primo Ottobre 2007 - 30 Settembre 2009;
- **Posizione Post-dottorale** presso l' Università of Wuerzburg (Germania),  
Ottobre 2009 - Febbraio 2011;
- **Assegno di Ricerca** presso il Dipartimento di Fisica dell' Università degli Studi di Roma Tre  
Febbraio 2011- Gennaio 2012;
- **Ricercatore di tipo A** presso l' Università degli Studi Roma Tre, Marzo 2012-November 2016.
- **Ricercatore di tipo B** presso Università degli Studi Roma Tre, 1 Dicembre 2016-30 Novembre 2019.

- **Professore Associato** presso l' Università degli Studi Roma Tre, dal primo Dicembre 2019.

### 3. **Coordinamento di attività di Ricerca**

- **Team Leader** (a nome dell'Università di Roma Tre) del progetto **PLAFOND** al CERN (Platform for Developing Neutrino Detectors): co-convenor del working group n.4, che si occupa degli studi di sensitività ai parametri di oscillazione dei futuri esperimenti di neutrino;  
<https://twiki.cern.ch/twiki/bin/view/CENF/NearDetectorWG4>  
Da December 2017.
- **Principal Investigator del progetto:**  
*Flavour symmetries and the problem of fermion masses and mixings,*  
nel programma "Futuro in Ricerca 2010", FIRB 2010 del MIUR.  
Marzo 2012- Marzo 2015. Ente finanziatore: MIUR.  
Budget: 382.600 euro
- **Coordinatore italiano** del progetto  
*Neutrino mass generation mechanisms in (grand) unified flavor models and phenomenological imprints,*  
dell' Excellence Cluster Munich (Germania), Ente finanziatore: Excellence Cluster, anno 2015  
Budget: 18.766 euro
- **Coordinatore italiano** del progetto  
*Cosmic rays and physics beyond the Standard Model,*  
collaborazione INFN-MEC con l'Università di Granada (Spagna), anno 2007.  
Budget: 2.300 euro
- **Coordinatore italiano** del progetto  
*Cosmic rays and physics beyond the Standard Model,*  
collaborazione INFN-MEC con l'Università di Granada (Spagna), anno 2008.  
Budget: 2.200 euro
- **Coordinatore italiano** del progetto  
*New physics in cosmic rays and particle colliders,*  
collaborazione INFN-MEC con l'Università di Granada (Spagna), anno 2009.  
Budget: 1.800 euro

### 4. **Partecipazione a progetti di ricerca**

- *Modelli teorici, calcoli di precisione e metodi di simulazione per la prossima fase di esperimenti in fisica delle particelle,*  
PRIN 2006. Ente finanziatore: MIUR.
- *Fisica delle particelle nell'epoca di LHC: modelli teorici, calcoli di precisione e metodi di simulazione,*  
PRIN 2008. Ente finanziatore: MIUR.

- *Search for new physics with astroparticles*, years 2011-2014. Ente finanziatore: MICINN (Spagna).
- *Neutrino mass generation mechanisms in (grand) unified flavor models and phenomenological imprints*, Ente finanziatore: Excellence Cluster, anno 2015.
- *Flavour symmetries and the problem of fermion masses and mixings*, Ente finanziatore: MIUR, anni 2012-2015.
- *Search for the Fundamental Laws and Constituents*, Ente finanziatore: MIUR, PRIN anni 2016-2018.

## 5. **Organizzazione Conferenze e Workshop**

- **Segretario Scientifico** in *Lattice99* (Pisa), 29 Giugno - 3 Luglio 1999
- **Segretario Scientifico** in *Lepton Photons 2001* (Roma) 23-29 Luglio 2001;
- **membro del comitato organizzatore di "FLASY2011"**, Valencia, 11-14 Luglio 2011.

## 6. **Esperienze editoriali**

Referee per le seguenti riviste: Nuclear Physics, Journal of High Energy Physics, Physical Review Letters, Physical Review D, Journal of Physics G .

7.

## 8. **Didattica Frontale**

- **aa 2000-2001**  
Corso of "Fisica" per il corso di laurea in "Scienze Naturali" presso l'Università di Roma , La Sapienza;
- **aa 2001-2002**  
Corso of "Fisica" per il corso di laurea in "Scienze Naturali" presso l'Università di Roma , La Sapienza;
- **Tutore** in "Taller de Altas Energias"  
Granada (Spain), 5-16 Maggio 2003;
- **aa 2005-2006**  
Esercitazioni per il corso di "Modelli e metodi matematici della fisica"  
presso l'Università di Roma , La Sapienza;
- **aa 2007-2008**  
Esercitazioni per il corso di "Fisica delle interazioni fondamentali"  
presso l'Università di Roma Tre, Dipartimento di Fisica;
- **aa 2008-2009**, Università di Roma Tre, Dipartimento di Fisica
  - Esercitazioni per il corso di "Elementi di meccanica statistica";
  - Esercitazioni per il corso di "Fisica delle interazioni fondamentali".
- **aa 2011-2012**, Università di Roma Tre, Dipartimento di Fisica

- Esercitazioni per il corso di "Fisica delle particelle oltre il Modello Standard";
- Corso di PhD "Physics beyond the Standard Model".
- [aa 2012-2013](#), Università di Roma Tre, Dipartimento di Fisica
  - Esercitazioni per il corso di "Fisica delle particelle oltre il Modello Standard";
  - Corso di PhD "Physics beyond the Standard Model".
- [aa 2013-2014](#), Università di Roma Tre, Dipartimento di Matematica e Fisica
  - Esercitazioni per il corso di "Metodi matematici della fisica";
  - Corso di PhD "Physics beyond the Standard Model";
  - Corso di "Elementi di Relatività"-PAS - Percorsi Abilitanti Speciali.
- [aa 2014-2015](#), Università di Roma Tre, Dipartimento di Matematica e Fisica
  - Esercitazioni per il corso di "Metodi matematici della fisica";
  - Corso di PhD "Physics beyond the Standard Model";
  - Corso of "Elementi di Relatività"-PAS online (Percorsi Abilitanti Speciali), A038.
  - Corso of "Elementi di Relatività"- TFA (Tirocinio Formativo Attivo), A038
- [aa 2015-2016](#), Università di Roma Tre, Dipartimento di Matematica e Fisica
  - Titolare del corso di "Metodi matematici della fisica" (12 crediti);
  - Corso di dottorato "Physics beyond the Standard Model";
  - 8h per il corso a scelta del secondo anno "Fisica Teorica Contemporanea";
- [aa 2016-2017](#), Università di Roma Tre, Dipartimento di Matematica e Fisica
  - Titolare del corso di "Metodi matematici della fisica";
  - Corso di dottorato "Physics beyond the Standard Model" (2 crediti);
  - Corso di dottorato "Current problems in neutrino physics" (1 credito)
  - 8h per il corso a scelta del secondo anno "Fisica Teorica Contemporanea";
- [aa 2017-2018](#), Università di Roma Tre, Dipartimento di Matematica e Fisica
  - Titolare del corso di "Metodi matematici della fisica" ;
  - 8h per il corso a scelta del secondo anno "Fisica Teorica Contemporanea";
  - Corso di dottorato "Physics beyond the Standard Model" (2 crediti);
  - Corso di dottorato "Elements of group theory and GUT" (1 credito).
- [aa 2018-2019](#), Università di Roma Tre, Dipartimento di Matematica e Fisica
  - Titolare del corso di "Metodi matematici della fisica" ;
  - Corso di dottorato "Physics beyond the Standard Model" (2 crediti);
  - Corso di dottorato "Elements of group theory and GUT" (1 credito).
- [aa 2019-2020](#), Università di Roma Tre, Dipartimento di Matematica e Fisica
  - Titolare del corso di "Metodi matematici della fisica" ;
  - Corso di dottorato "Elements of group theory and GUT" (3 crediti).
- [aa 2020-2021](#), Università di Roma Tre, Dipartimento di Matematica e Fisica

- Titolare del corso di "Metodi matematici della fisica" ;
- Titolare del corso di "Fisica Teorica II" (6 crediti).
- **aa 2021-2022**, Università di Roma Tre, Dipartimento di Matematica e Fisica
  - Titolare del corso di "Metodi matematici della fisica" ;
  - Titolare del corso di "Fisica Teorica II" (6 crediti).

## 9. **Lezioni a Scuole di Fisica**

- **Grand Unification**

IPM school and conference on Particle Physics (IPP15), Theran (Iran), 22-27 Settembre 2015.

## 10. **Tesi triennali dirette (nome dello studente intenzionalmente non incluso)**

- Oscillazione dei neutrini nella materia a densita' variabil, 2011-2012;
- Fenomenologia delle trasformazioni di Lorentz: Spin del Fotone, 2015-2016;
- Effetti di materia nelle oscillazioni dei neutrini, 2015/2016;
- Meccanica quantistica supersimmetrica, 2016-2017;
- Metodo WKB e sue applicazioni, 2017-2018;
- Teoria Spettrale e Simmetrie Quantistiche, 2019-2020;

## 11. **Tesi Magistrali dirette**

- Effetti nucleari nelle oscillazioni dei neutrini, 2012-2013
- Analisi del contributo degli stop alla sezione d'urto di produzione del bosone di Higgs, 2012-2013
- Radiative fermion masses in a Pati-Salam model, 2016-2017
- $\nu_\mu \rightarrow \nu_\tau$  transition in DUNE and its role in sterile neutrino models, 2018-2019
- Leptonic CP violation in models with inverted neutrino mass hierarchy, 2018-2019
- Flavour symmetries in the Pati-Salam model, 2018-2019
- CP-violation and leptogenesis in neutrino mass models with inverted mass hierarchy, 2020-2021

## 12. **Tesi di dottorato dirette**

- Nuclear effects in neutrino oscillation experiments, 2013-2016;
- New Physics effects in the neutrino sector, 2013-2016;
- On the renormalization of the singlet extension of the Standard Model, 2014-2017;
- A critical study of two Pati-Salam models, 2015-2018;
- On Aspects of Weakly Interacting Physics: Neutrino Oscillation & Dark Sector", 2016-2019.

### 13. Partecipazione a gruppi di lavoro di Ateneo e di Dipartimento

- Rappresentante dei Ricercatori presso il Senato Accademico, Maggio 2018-Aprile 2019;
- Membro della Commissione Ricerca di Ateneo, Maggio 2018-Aprile 2019;
- Presidente della Commissione Organizzatrice dei Colloquia di Fisica, dal 2019.
- Membro della Commissione Didattica di Fisica, dal 2019;
- Membro della Commissione di Dottorato per il XXXVII ciclo, aa 2021.

### 14. Terza Missione

- *Lo strano caso del signor Neutrino*, Seminario divulgativo durante l'evento "La fisica incontra la città", Roma, Dicembre 2014;
- *La grande storia del piccolo Neutrino*, Seminario divulgativo durante l'evento "Occhi su Giove", Roma, Maggio 2016;
- *Neutrini: dalla scoperta ad oggi*, Seminario divulgativo dedicato a studenti di Liceo, Roma, 2016 & 2017;
- *Non tutto è relativo*, Seminario divulgativo durante l'evento "Occhi sulla Luna", Roma, Febbraio 2017;
- *Corso di Latex*, organizzato per studenti di liceo, Alternanza Scuola-Lavoro, Roma, 2019.

### 15. Lingue parlate

spagnolo (fluente), inglese (fluente), francese (discreto), tedesco (diploma di livello A1)

### 16. Pubblicazioni

- **$B^0$  - anti  $B^0$  mixing and decay constants with the non-perturbatively improved action**  
D. Becirevic, D. Meloni, A. Retico, V. Gimenez, L. Giusti, V. Lubicz and G. Martinelli,  
Nucl. Phys. B **618**, 241 (2001)
- **A Theoretical Prediction of the  $B_S$ -Meson Lifetime Difference**  
D. Becirevic, D. Meloni, A. Retico, V. Gimenez, V. Lubicz and G. Martinelli,  
Eur. Phys. J. C **18**, 157 (2000)
- **An estimate of the  $K^0 - \bar{K}^0$  amplitude**  
D. Becirevic, D. Meloni and A. Retico,  
JHEP **0101**, 012 (2001)
- **The 2+2 and 3+1 Four Family Neutrino Mixing at the Neutrino Factory**  
A. Donini and D. Meloni,  
Eur. Phys. J. C **22**, 179 (2001)
- **Telling three from four neutrinos at the neutrino factory**  
A. Donini, M. Lusignoli and D. Meloni,  
Nucl. Phys. B **624**, 405 (2002)

- **The silver channel at the neutrino factory**  
A. Donini, D. Meloni and P. Migliozzi,  
Nucl. Phys. B **646**, 321 (2002)
- **The synergy of the golden and silver channels at the Neutrino Factory**  
D. Autiero *et al.*,  
Eur. Phys. J. C **33**, 243 (2004)
- **Clone flow analysis for a theory inspired Neutrino Experiment planning**  
A. Donini, D. Meloni, S. Rigolin  
JHEP **0406**, 011 (2004)
- **Cosmogenic neutrinos and signals of TeV gravity in air showers and neutrino telescopes**  
J. I. Illana, M. Masip and D. Meloni  
Phys. Rev. Lett. **93**, 151102 (2004)
- **Flavour and polarisation in heavy neutrino production at e+ e- colliders**  
F. del Aguila, J. A. Aguilar-Saavedra, A. Martinez de la Ossa and D. Meloni,  
Phys. Lett. B **613**, 170 (2005)
- **TeV gravity at neutrino telescopes**  
J. I. Illana, M. Masip and D. Meloni,  
Phys. Rev. D **72**, 024003 (2005)
- **The impact of solar and atmospheric parameter uncertainties on the measurement of  $\theta_{13}$  and  $\delta$**   
A. Donini, D. Meloni and S. Rigolin  
Eur. Phys. J. C **45** (2006) 73
- **$\nu_\mu$  disappearance at the SPL, T2K-I, NO $\nu$ A and the neutrino factory**  
A. Donini, E. Fernandez-Martinez, D. Meloni and S. Rigolin  
Nucl. Phys. B **743**, 41 (2006)
- **Estimates of the uncertainties associated with models of the nucleon structure functions in the  $\Delta$  production region**  
O. Benhar and D. Meloni,  
Phys. Rev. Lett. **97**, 192301 (2006)
- **Total neutrino and antineutrino nuclear cross sections around 1-GeV**  
O. Benhar and D. Meloni,  
Nucl. Phys. A **789** (2007) 379
- **New physics from ultrahigh energy cosmic rays**  
J. I. Illana, M. Masip and D. Meloni  
Phys. Rev. D **75**, 055002 (2007)
- **Neutrino flux ratios at neutrino telescopes: The role of uncertainties of neutrino mixing parameters and applications to neutrino decay**  
D. Meloni and T. Ohlsson,  
Phys. Rev. D **75** (2007) 125017

- **Flavor Composition and Energy Spectrum of Astrophysical Neutrinos**  
Paolo Lipari, Maurizio Lusignoli, Davide Meloni  
Phys. Rev. D **75**, 123005 (2007)
- **Sterile neutrinos at the CNGS**  
A. Donini, M. Maltoni, D. Meloni, P. Migliozzi, F. Terranova
- **Long-lived staus from cosmic rays**  
M. Ahlers, J. I. Illana, M. Masip and D. Meloni  
JCAP **0708**, 008 (2007) [arXiv:0705.3782 [hep-ph]].
- **Solving the octant degeneracy with the Silver channel**  
D. Meloni,  
Phys. Lett. B **664**, 279 (2008)
- **An intermediate gamma beta-beam neutrino experiment with long baseline**  
D. Meloni, O. Mena, C. Orme, S. Palomares-Ruiz and S. Pascoli,  
JHEP **0807**, 115 (2008)
- **Non-standard interactions using the OPERA experiment**  
M. Blennow, D. Meloni, T. Ohlsson, F. Terranova and M. Westerberg,  
Eur. Phys. J. C **56**, 529 (2008)
- **CP violation in neutrino oscillations and new physics.**  
G. Altarelli and D. Meloni,  
Nucl. Phys. B **809** (2009) 158
- **The Discovery channel at the Neutrino Factory:  $\nu_\mu \rightarrow \nu_\tau$  pointing to sterile neutrinos.**  
A. Donini, Ken-ichi Fukui, J. Lopez-Pavon, D. Meloni, O. Yasuda  
JHEP **0908** (2009) 041
- **Exact and Approximate Formulas for Neutrino Mixing and Oscillations with Non-Standard Interactions**  
D. Meloni, T. Ohlsson and H. Zhang,  
JHEP **0904** (2009) 033
- **Non-standard interaction effects on astrophysical neutrino fluxes**  
M. Blennow and D. Meloni,  
Phys. Rev. D **80**, 065009 (2009)
- **Impact of nuclear effects on the determination of the nucleon axial mass**  
O. Benhar and D. Meloni,  
Phys. Rev. D **80**, 073003 (2009)
- **A Simplest A4 Model for Tri-Bimaximal Neutrino Mixing**  
G. Altarelli and D. Meloni,  
J. Phys. G **36**, 085005 (2009)
- **Atmospheric lepton fluxes at ultrahigh energies**  
J. I. Illana, M. Masip and D. Meloni,  
JCAP **0909**, 008 (2009)



- **A See-Saw  $S_4$  model for fermion masses and mixings**  
D. Meloni,  
J. Phys. G **37**, 055201 (2010)
- **Non-standard interactions versus non-unitary lepton flavor mixing at a neutrino factory**  
D. Meloni, T. Ohlsson, W. Winter and H. Zhang  
JHEP **1004** (2010) 041
- **The  $\tau$ -contamination of the golden muon sample at the Neutrino Factory**  
A. Donini, J. J. Gomez Cadenas and D. Meloni,  
JHEP **1102**, 095 (2011)
- **Fritzsch neutrino mass matrix from  $S_3$  symmetry**  
D. Meloni, S. Morisi and E. Peinado,  
J. Phys. G **38**, 015003 (2011)
- **Electroweak nuclear response in quasi-elastic regime**  
O. Benhar, P. Coletti and D. Meloni  
Phys. Rev. Lett. **105** (2010) 132301
- **Sterile neutrinos beyond LSND at the Neutrino Factory**  
D. Meloni, J. Tang and W. Winter  
Phys. Rev. D **82** (2010) 093008
- **Importance of nuclear effects in the measurement of neutrino oscillation parameters**  
E. Fernandez-Martinez and D. Meloni,  
Phys. Lett. **B697**, 477-481 (2011)
- **Atmospheric lepton fluxes at very high energy**  
J.I. Illana, Paolo Lipari, M. Masip, D. Meloni  
Astropart. Phys. **34**, 663-673 (2011)
- **Neutrino phenomenology and stable dark matter with  $A_4$**   
D. Meloni, S. Morisi and E. Peinado  
Phys. Lett. **B697**, 339-342 (2011)
- **Perturbing exactly tri-bimaximal neutrino mixings with charged lepton mass matrices**  
Davide Meloni, Florian Plentinger, Walter Winter  
Phys. Lett. **B699**, 354-359 (2011)
- **Stability of dark matter from the dihedral  $D_4$  group**  
D. Meloni, S. Morisi, E. Peinado,  
Phys. Lett. B **703**, 281 (2011)
- **Bimaximal mixing and large  $\theta_{13}$  in a SUSY  $SU(5)$  model based on  $S_4$**   
D. Meloni, JHEP **1110** (2011) 010
- **A Model for Tri-bimaximal Mixing from a Completely Broken  $A_4$**   
G. -J. Ding, D. Meloni,  
Nucl. Phys. **B855** (2012) 21-45

- **Large  $\theta_{13}$  from a model with broken  $L_e - L_\mu - L_\tau$  symmetry**  
D. Meloni  
JHEP **1202**, 090 (2012)
- **Constraining neutrinoless double beta decay**  
L. Dorame, D. Meloni, S. Morisi, E. Peinado and J. W. F. Valle,  
Nucl. Phys. B **861** (2012) 259
- **Predicting leptonic CP violation in the light of Daya Bay result on  $\theta_{13}$**   
D. Meloni, S. Morisi and E. Peinado, Eur. Phys. J. C **72**, 2160 (2012)
- **$S_3$  as a flavour symmetry for quarks and leptons after the Daya Bay result on  $\theta_{13}$**   
D. Meloni  
JHEP **1205**, 124 (2012)
- **Revisiting the T2K data using different models for the neutrino-nucleus cross sections**  
D. Meloni and M. Martini,  
Phys. Lett. B **716**, 186 (2012)
- **$D_{14}$  - A Common Origin of the Cabibbo Angle and the Lepton Mixing Angle  $\theta_{13}^l$**   
C. Hagedorn and D. Meloni,  
Nucl. Phys. B **862**, 691 (2012)
- **Fine-tuning and naturalness issues in the two-zero neutrino mass textures**  
D. Meloni and G. Blankenburg,  
Nucl. Phys. B **867**, 749 (2013)
- **Leptonic CP violation and mixing patterns at neutrino telescopes**  
D. Meloni and T. Ohlsson,  
Phys. Rev. D **86**, 067701 (2012)
- **Heavy neutrino decays at MiniBooNE**  
M. Masip, P. Masjuan and D. Meloni,  
JHEP **1301**, 106 (2013)
- **Neutrino Mass from a d=7 Effective Operator in an SU(5) SUSY-GUT Framework**  
M. B. Krauss, D. Meloni, W. Porod and W. Winter,  
JHEP **1305**, 121 (2013)
- **A non supersymmetric SO(10) grand unified model for all the physics below  $M_{GUT}$**   
G. Altarelli and D. Meloni,  
JHEP **1308**, 021 (2013)
- **Checking Flavour Models at Neutrino Facilities**  
D. Meloni,  
Phys. Lett. B **728**, 118 (2014)

- **Two-zero Majorana textures in the light of the Planck results**  
D. Meloni, A. Meroni and E. Peinado,  
Phys. Rev. D **89**, 053009 (2014)
- **A Bayesian comparison of U(1) lepton flavour models**  
J. Bergstrom, D. Meloni and L. Merlo,  
Phys. Rev. D **89**, 093021 (2014)
- **Constraining new physics scenarios in neutrino oscillations from Daya Bay data**  
I. Girardi and D. Meloni,  
Phys. Rev. D **90** (2014) 7, 073011
- **The Daya Bay and T2K results on  $\sin^2 2\theta_{13}$  and Non-Standard Neutrino Interactions**  
I. Girardi, D. Meloni and S. T. Petcov,  
Nucl. Phys. B **886**, 31 (2014)
- **Constraining Sterile Neutrinos Using Reactor Neutrino Experiments**  
I. Girardi, D. Meloni, T. Ohlsson, H. Zhang and S. Zhou,  
JHEP **1408**, 057 (2014)
- **Effects of intermediate scales on renormalization group running of fermion observables in an SO(10) model**  
D. Meloni, T. Ohlsson and S. Riad,  
JHEP **1412**, 052 (2014)
- **A new physics interpretation of the IceCube data**  
J. I. Illana, M. Masip and D. Meloni,  
Astropart. Phys. **65** (2014) 64
- **Probing new physics scenarios in accelerator and reactor neutrino experiments**  
A. Di Iura, I. Girardi and D. Meloni,  
J. Phys. G **42**, 065003 (2015)
- **Leptogenesis in SO(10)**  
C. S. Fong, D. Meloni, A. Meroni and E. Nardi,  
JHEP **1501** (2015) 111
- **Lepton mixing from the interplay of the alternating group A5 and CP**  
A. Di Iura, C. Hagedorn and D. Meloni,  
JHEP **1508** (2015) 037
- **Renormalization of the chromomagnetic operator on the lattice**  
M. Constantinou, M. Costa, R. Frezzotti, V. Lubicz, G. Martinelli, D. Meloni, H. Panagopoulos and S. Simula,  
Phys. Rev. D **92**, no. 3, 034505 (2015)
- **Comparison of the calorimetric and kinematic methods of neutrino energy reconstruction in disappearance experiments**  
A. M. Ankowski, O. Benhar, P. Coloma, P. Huber, C. M. Jen, C. Mariani, D. Meloni

and E. Vagnoni,

Phys. Rev. D **92**, no. 7, 073014 (2015)

- **Phenomenology of SU(5) low-energy realizations: the diphoton excess and Higgs flavor violation**  
A. Di Iura, J. Herrero-Garcia and D. Meloni,  
Nucl. Phys. B **911**, 388 (2016)
- **Probability Densities of the effective neutrino masses  $m_\beta$  and  $m_{\beta\beta}$**   
A. Di Iura and D. Meloni,  
Nucl. Phys. B **921** (2017) 829.
- **GUT and flavor models for neutrino masses and mixing**  
D. Meloni,  
Front. in Phys. **5** (2017) 43
- **Renormalization Group Running of Fermion Observables in an Extended Non-Supersymmetric SO(10) Model**  
D. Meloni, T. Ohlsson and S. Riad,  
JHEP **1703** (2017) 045.
- **Inelastic Neutrino-Nucleus Interactions within the Spectral Function Formalism**  
E. Vagnoni, O. Benhar and D. Meloni,  
Phys. Rev. Lett. **118** (2017) no.14, 142502.
- **Neutrino-nucleus interactions and the determination of oscillation parameters**  
O. Benhar, P. Huber, C. Mariani and D. Meloni,  
Phys. Rept. **700** (2017) 1  
doi:10.1016/j.physrep.2017.07.004
- **Origin of the high-energy neutrino flux at IceCube**  
J. M. Carceller, J. I. Illana, M. Masip and D. Meloni,  
Astrophys. J. **852** (2018) no.1, 59.
- **Radiative corrections of heavy scalar decays to gauge bosons in the singlet extension of the Standard Model**  
G. Ria and D. Meloni,  
Eur. Phys. J. C **78** (2018) no.3, 270
- **$K \rightarrow \pi$  matrix elements of the chromomagnetic operator on the lattice**  
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