

Fulvio Zonca

List of Publications

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Summary Information: [Journal Articles](#): 210
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 [Invited Talks](#): 53
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Journal Articles: 210

1. Z. An, X. Tao, **F. Zonca** and L. Chen, *Frequency Chirping of Electromagnetic Ion Cyclotron Waves in Earth's Magnetosphere*, *Geophysical Research Letters* **51**, e2023GL106456–p1-p9, (2024). Journal Impact Factor: X.
2. M.V. Falessi, L. Chen, Z. Qiu, and **F. Zonca**, *Nonlinear equilibria and transport processes in burning plasmas*, *New Journal of Physics* **25**, 123035–p1-p21, (2023). Journal Impact Factor: X.
3. A. Biancalani, A. Bottino, D. Del Sarto, M.V. Falessi, T. Hayward-Schneider, P. Lauber, A. Mishchenko, B. Rettino, J.N. Sama, F. Vannini, L. Villard, X.Wang, **F. Zonca**, and the ASDEX Upgrade team, *Nonlinear interaction of Alfvénic instabilities and turbulence via the modification of the equilibrium profiles*, *Journal of Plasma Physics* **89**, 905890602–p1-p13, (2023). Journal Impact Factor: X.
4. Z. Qiu, L. Chen, and **F. Zonca**, *Gyrokinetic theory of toroidal Alfvén eigenmode saturation via nonlinear wave-wave coupling*, *Reviews of Modern Plasma Physics* **7**, 28–p1-p36, (2023). Journal Impact Factor: X.
5. L. Chen, Z. Qiu, and **F. Zonca**, *On nonlinear scattering of drift wave by toroidal Alfvén eigenmode in tokamak plasmas*, *Nuclear Fusion* **63**, 106016–p1-p8, (2023). Journal Impact Factor: X.
6. L. Piron, P. Buratti, M. Falessi, M. Gambrioli, G. Graham, M. Lennhol, D.F. Valcarcel, **F. Zonca**, R. Henriques, S. Gerasimov, T. Hender, E. Joffrin, K. Kirov, J. Mitchell, G. Pucella, O. Sauter, G. Szepesi, D. Terranova, P. Zanca, JET contributors, *Locked mode detection during error field identification studies*, *Fusion Engineering and Design* **195**, 113957–p1-p7, (2023). Journal Impact Factor: X.
7. Hogun Jhang, Junghee Kim, Jisung Kang, Minho Kim, L. L. Zhang, G. Y. Fu, **Fulvio Zonca**, L. Chen, I Chavdarovski, Minjun J. Choi, M. V. Falessi, S. Lee and Z. Y. Qiu, *Energetic passing particle-driven instabilities and their impact on discharge evolution in KSTAR*, *Plasma Physics and Controlled Fusion* **65**, 095018–p1-p16 (2023). Journal Impact Factor: X.
8. X. Wang, S. Briguglio, A Bottino, M Falessi, T. Hayward-Schneider, Ph. Lauber, A. Mishchenko, L. Villard and **F. Zonca**, *Nonlinear dynamics of nonadiabatic chirping-frequency Alfvén modes in tokamak plasmas*, *Plasma Physics and Controlled Fusion* **65**, 074001–p1-p15 (2023). Journal Impact Factor: X.
9. Shangchun Teng, Yifan Wu, Yuki Harada, Jacob Bortnik, **Fulvio Zonca**, Liu Chen and Xin Tao, *Whistler-mode chorus waves at Mars*, *Nature Communications* **14**, 3142–p1-p9 (2023). Journal Impact Factor: X.

- 10.** Alexey Mishchenko, Alessandro Biancalani, Matthias Borchardt, Alberto Bottino, Sergio Briguglio, Remi Dumont, Jorge Ferreira, J.P. Graves, Thomas Hayward-Schneider, Ralf Kleiber, Axel Könies, Emmanuel Lanti, Ph. Lauber, Henry Leyh, Z.X. Lu, Hinrich Lütjens, B. McMillan, M. Campos Pinto, Emanuele Poli, Brando Rettino, Baruch Rofman, J.N. Sama, Christoph Slaby, Francesco Vannini, Laurent Villard, Gregorio Vlad, Xin Wang, Fabien Widmer, and **Fulvio Zonca**, *Numerical tools for burning plasmas*, *Plasma Physics and Controlled Fusion* **65**, 064001–p1–p9 (2023). Journal Impact Factor: X.
- 11.** Alessandro Zocco, Alexey Mishchenko, Axel Könies, Matteo Falessi and **Fulvio Zonca**, *Nonlinear drift-wave and energetic particle long-time behaviour in stellarators: solution of the kinetic problem*, *Journal of Plasma Physics* **89**, 905890307–p1–p22 (2023). Journal Impact Factor: X.
- 12.** Tao Wang, Xiang Zhu, Long Zeng, Sergio Briguglio, Gregorio Vlad, **Fulvio Zonca** and Zhiyong Qiu, *Excitation of toroidal Alfvén eigenmode by barely circulating energetic electrons in low density plasmas*, *Plasma Physics and Controlled Fusion* **65**, 055026–p1–p8 (2023). Journal Impact Factor: X.
- 13.** Ruirui Ma, W. W. Heidbrink, Liu Chen, **Fulvio Zonca** and Zhiyong Qiu, *Low-frequency shear Alfvén waves at DIII-D: Theoretical interpretation of experimental observations*, *Physics of Plasmas* **30**, 042105–p1–p11 (2023). Journal Impact Factor: X.
- 14.** A. Bottino, M. V. Falessi, T. Hayward-Schneider, A. Biancalani, S. Briguglio, R. Hatzky, Ph. Lauber, A. Mishchenko, E. Poli, B. Rettino, F. Vannini, X. Wang and **F. Zonca**, *Time evolution and finite element representation of Phase Space Zonal Structures in ORB5*, *Journal of Physics: Conference Series* **2397**, 012019–p1–p13 (2022). Journal Impact Factor: X.
- 15.** Shizhao Wei, Tao Wang, Liu Chen, **Fulvio Zonca** and Zhiyong Qiu, *Core localized alpha-channeling via low frequency Alfvén mode generation in reversed shear scenarios*, *Nuclear Fusion* **62**, 126038–p1–p7 (2022). Journal Impact Factor: 4.215.
- 16.** Y. Wu, X. Tao, **F. Zonca** and L. Chen, *Nonlinear Electron Phase-Space Dynamics in Spontaneous Excitation of Falling-Tone Chorus*, *Geophysical Research Letters* **49**, e2022GL100046–p1–p10 (2022). Journal Impact Factor: 5.576.
- 17.** L. Chen, Z. Qiu and **F. Zonca**, *On scattering and damping of toroidal Alfvén eigenmode by drift wave turbulence*, *Nuclear Fusion* **62**, 094001–p1–p5, (2022). Journal Impact Factor: 4.215.
- 18.** L. Chen, Z. Qiu and **F. Zonca**, *Parity-breaking parametric decay instability of kinetic Alfvén waves in a nonuniform plasma*, *Physics of Plasmas* **29**, 050701–p1–p5, (2022). Journal Impact Factor: 2.357.
- 19.** L.M. Yu, **F. Zonca**, Z. Qiu, L. Chen, W. Chen, X.T. Ding, X.Q. Ji, T. Wang, T.B. Wang, R.R. Ma, B.S. Yuan, P.W. Shi, Y.G. Li, L. Liu, Z.B. Shi, J.Y. Cao, J.Q. Dong, Y. Liu, Q.W. Yang and M. Xu, *Experimental evidence of nonlinear avalanche dynamics of energetic particle modes*, *Europhysics Letters* **138**, 54002–p1–p6, (2022) Journal Impact Factor: 1.958.

20. Xuru Duan, Min Xu, Wulyu Zhong, Yi Liu, Xianming Song, Dequan Liu, Yingqiao Wang, Bo Lu, Zhongbing Shi, Guoyao Zheng, Yong Liu, Qingwei Yang, Weichen Mao, Qiang Li, Lijun Cai, Xiao Quan Ji, Xiaolong Liu, Liancai Li, B Li, Jiaqi Dong, Xuantong Ding, Longwen Yan, Jean-Francois Artaud, Xingyu Bai, Jianyong Cao, Zeng Cao, Liu Chen, Wei Chen, Lena Delpech, Hailong Du, Annika Ekedahl, Zhe Gao, Jeronimo Garcia, Mingkun Han, GZ Hao, HM He, Gia Tuong Hoang, Mei Huang, Mitsutaka Isobe, Min Jiang, Anshu Liang, Yueqiang Liu, Dong Li, Huajun Li, Jiquan Li, Jiaxian Li, Yongge Li, Ting Long, Didier Mazon, George R McKee, Zhiyong Qiu, Jianfei Peng, Yves Peysson, Jun Rao, Xiao Song, Tengfei Sun, Zheng-Xiong Wang, Huiling Wei, Jie Wen, Na Wu, Yuhong Xu, Guoliang Xiao, XP Xiao, Lei Xue, Zheng Yan, Zongyu Yang, Deliang Yu, Liming Yu, Yi Yu, Linge Zang, Jinghua Zhang, Neng Zhang, Yipo Zhang, **F. Zonca**, Xiao Lan Zou and HL-2A/HL-2M Team, *Progress of HL-2A experiments and HL-2M program*, Nuclear Fusion **62**, 042020–p1-p15, (2022). Journal Impact Factor: 4.215.

21. G. Pucella, E. Alessi, S. Almaguiera, B. Angelini, M.L. Apicella, G. Apruzzese, M. Aquilini, G. Artaserse, B. Baiocchi, M. Baruzzo, F. Belli, W. Bin, F. Bombarda, L. Boncagni, S. Briguglio, A. Bruschi, P. Buratti, G. Calabrò, M. Cappelli, A. Cardinali, N. Carlevaro, D. Carnevale, L. Carraro, C. Castaldo, F. Causa, R. Cavazzana, S. Ceccuzzi, P. Cefali, C. Centioli, R. Cesario, S. Cesaroni, C. Cianfarani, M. Ciotti, G. Claps, F. Cordella, F. Crisanti, Y. Damizia, O. D’Arcangelo, M. De Angeli, E. Di Ferdinando, S. Di Giovenale, C. Di Troia, A. Dodaro, B. Esposito, M. Falessi, F. Fanale, D. Farina, L. Figini, G. Fogaccia, D. Frigione, V. Fusco, L. Gabellieri, G. Gallerano, S. Garavaglia, G. Ghillardi, G. Giacomi, E. Giovannozzi, G. Gittini, G. Granucci, G. Grosso, L.A. Grosso, M. Iafrati, L. Laguardia, E. Lazzaro, D. Liuzza, M. Lontano, G. Maddaluno, S. Magagnino, M. Marinucci, D. Marocco, G. Mazzitelli, C. Mazzotta, C. Meineri, V. Melleri, M. Mezzacappa, A. Milovanov, D. Minelli, F.C. Mirizzi, G. Montani, A. Moro, F. Napoli, S. Nowak, F.P. Orsitto, D. Pacella, F. Pallotta, S. Palomba, L. Panaccione, A. Pensa, V. Pericoli-Ridolfini, P. Petrolini, V. Piergotti, C. Piron, A. Pizzuto, S. Podda, M.E. Puiatti, G. Ramogida, B. Raspante, G. Ravera, D. Ricci, N. Rispoli, G. Rocchi, A. Romano, G. Rubino, S. Rueca, M. Scisciò, L. Senni, A. Sibio, A. Simonetto, C. Sozzi, U. Tartari, A. Taschin, B. Tilia, G. Trentuno, A.A. Tuccillo, O. Tudisco, R. Tulli, M. Valisa, M. Vellucci, B. Viola, E. Vitale, G. Vlad, D. Zannetti, B. Zaniol, M. Zerbini, **F. Zonca**, V.K. Zotta, M. Angelone, C. Barcellona, L. Calacci, L. Caneve, F. Colao, B. Coppi, S. Galeani, C. Galperti, P. Gasior, W. Gromelski, M. Hoppe, M. Kubkowska, V. Lazic, M. Lehnen, M. Marinelli, F. Martinelli, E. Milani, P. Masetti, P. Muscente, E. Nardon, M. Passeri, A. Reale, M. Sassano, A. Selce, C. Verona and G. Verona-Rinati, *Overview of the FTU results*, Nuclear Fusion **62**, 042004–p1-p13, (2022). Journal Impact Factor: 4.215.

22. G. Pucella, E. Alessi, F. Auriemma, P. Buratti, M. V. Falessi, E. Giovannozzi, **F. Zonca**, M. Baruzzo, C. D. Challis, R. Dumont, D. Frigione, L. Garzotti, J. Hobirk, A. Kappatou, D. L. Keeling, D. King, V. G. Kiptily, E. Lerche, P. J. Lomas, M. Maslov, I. Nunes, F. Rimini, P. Sirén, C. Sozzi, M. F. Stamp, Z. Stancar, H. Sun, D. Van Eester, M. Zerbini and JET Contributors, *Beta-induced Alfvén eigenmodes and geodesic acoustic modes in the presence of strong tearing activity during the current ramp-down on JET*, Plasma Physics and Controlled Fusion **64**, 045023–p1-p21, (2022) Journal Impact Factor: 2.532.

23. X. Wang, S. Briguglio, C. Di Troia, M. Falessi, G. Fogaccia, V. Fusco, G. Vlad and **F. Zonca**, *Analysis of the nonlinear dynamics of a chirping-frequency Alfvén mode in a tokamak equilibrium*, Physics of Plasmas **29**, 032512–p1-p21, (2022). Journal Impact Factor: 2.357.

24. N. Carlevaro, G. Meng, G. Montani, **F. Zonca**, T. Hayward-Schneider, Ph. Lauber, Z. Lu and X. Wang, *One dimensional reduced model for ITER relevant energetic particle transport*, Plasma Physics and Controlled Fusion **64**, 035010–p1-p14, (2022) Journal Impact Factor: 2.532.

- 25.** F. Zonca, X. Tao, and L. Chen, *A theoretical framework of chorus wave excitation*, Journal of Geophysical Research: Space Physics **127**, e2021JA029760–p1–p25, (2022). Journal Impact Factor: 3.111.
- 26.** R.R. Ma, L. Chen, F. Zonca, Y. Li, and Z. Qiu, *Theoretical studies of low-frequency Alfvén modes in tokamak plasmas*, Plasma Physics and Controlled Fusion **64**, 035019–p1–p11, (2022) Journal Impact Factor: 2.532.
- 27.** Xavier L. Litaudon, Frank Jenko, D. Borba, Dmitriy V. Borodin, Bastiaan Braams, Sebastijan Brezinsek, Ivan Calvo, R. Coelho, A. J. H. Donne, Ola Embreus, Daniela Farina, Tobias Görler, Jonathan P. Graves, Roman Hatzky, Jon Hillesheim, Frederic Imbeaux, Denis Kalupin, Richard Kamendje, Hyun-Tae Kim, Hendrik Meyer, Fulvio Militello, Kai Nordlund, Colin M. Roach, F. Robin, M. Romanelli, Friedrich Schluck, Eric Serre, Eric Sonnendruecker, Pär Strand, Patrick Tamain, David Tskhakaya, Jose Luis Velasco, Laurent Villard, Sven Wiesen, Howard R. Wilson and F. Zonca, *EUROfusion-theory and advanced simulation coordination (E-TASC): programme and the role of high performance computing*, Plasma Physics and Controlled Fusion **64**, 034005–p1–p14, (2022). Journal Impact Factor: 2.532.
- 28.** F. Zonca, X. Tao, and L. Chen, *Nonlinear dynamics and phase space transport by chorus emission*, Reviews of Modern Plasma Physics **5**, 8–p1–p44, (2021). Journal Impact Factor: X.
- 29.** X. Tao, F. Zonca and L. Chen, *A “Trap-Release-Amplify” Model of Chorus Waves*, Journal of Geophysical Research: Space Physics **126**, e2021JA029585–p1–p21, (2021). Journal Impact Factor: 3.111.
- 30.** G. Vlad, X. Wang, F. Vannini, S. Briguglio, N. Carlevaro, M. V. Falessi, G. Fogaccia, V. Fusco, F. Zonca, A. Biancalani, A. Bottino, T. Hayward-Schneider and Ph. Lauber, *A linear benchmark between HYMAGYC, MEGA and ORB5 codes using the NLED-AUG test case to study Alfvénic modes driven by energetic particles*, Nuclear Fusion **61**, 116026–p1–p16, (2021). Journal Impact Factor: 4.215.
- 31.** G. Spizzo, M. Gobbin, P. Agostinetti, R. Albanese, R. Ambrosino, I. Casiraghi, M. Cecconello, M.V. Falessi, G. Granucci, P. Mantica, P. Martin, M. Vallar, P. Vincenzi, G. Vlad, R.B. White and F. Zonca, *Collisionless losses of fast ions in the divertor tokamak test due to toroidal field ripple*, Nuclear Fusion **61**, 116016–p1–p13, (2021). Journal Impact Factor: 4.215.
- 32.** L. Chen, F. Zonca and Y. Lin, *Physics of Kinetic Alfvén Waves: a gyrokinetic theory approach*, Reviews of Modern Plasma Physics **5**, 1–p1–p37, (2021). Journal Impact Factor: X.
- 33.** Z. X. Lu, M. Weiland, Ph. Lauber, X. Wang, G. Meng and F. Zonca, *Effects of anisotropic energetic particles on zonal flow residual level*, Nuclear Fusion **61**, 086022–p1–p11 (2021). Journal Impact Factor: 4.215.
- 34.** Z. Qiu, L. Chen, F. Zonca and M. V. Falessi, *Evidence of ‘two plasmon’ decay of energetic particle induced geodesic acoustic mode*, New Journal of Physics **23**, 063045–p1–p11, (2021). Journal Impact Factor: 3.729.
- 35.** F. Zonca, L. Chen, M. V. Falessi and Z. Qiu, *Nonlinear radial envelope evolution equations and energetic particle transport in tokamak plasmas*, Journal of Physics: Conference Series **1785**, Varenna-Lausanne 2020 12-16 October, Lausanne, Switzerland, 012005–p1–p10, (2021). Journal Impact Factor: X.
- 36.** L. Chen, H. Chen, F. Zonca and Y. Lin, *A Gyrokinetic Simulation Model for Low Frequency Electromagnetic Fluctuations in Magnetized Plasmas*, Sci. China-Phys. Mech. Astron. **64**, 245211–p1–p6 (2021). Journal Impact Factor: X.
- 37.** L. Sanchis, M. Garcia-Munoz, E. Viezzer, A. Loarte, L. Li, Y. Liu, A. Snicker, L. Chen, F. Zonca and S. D. Pinches, *Optimizing beam-ion confinement in ITER by adjusting the toroidal phase of the 3-D magnetic fields applied for ELM control*, Nuclear Fusion **61**, 046006–p1–p14 (2021). Journal Impact Factor: 4.215.

- 38.** T. Wang, Z. Qiu, **F. Zonca**, S. Briguglio and G. Vlad, *Dynamics of reversed shear Alfvén eigenmode and energetic particles during current ramp-up*, Nuclear Fusion **60**, 126032-p1-p19, (2020). Journal Impact Factor: 3.179.
- 39.** L. Chen, **F. Zonca** and H. Chen, *Unexpanded nonlinear electromagnetic gyrokinetic equations for magnetized plasmas*, Plasma Science and Technology **22**, 102001-p1-p4, (2020). Journal Impact Factor: 1.567.
- 40.** Z. Qiu, L. Chen, **F. Zonca** and R. Ma, *Zero frequency zonal flow excitation by energetic electron driven beta-induced Alfvén eigenmode*, Plasma Physics and Controlled Fusion **62**, 105012-p1-p7, (2020). Journal Impact Factor: 2.458.
- 41.** M. V. Falessi, N. Carlevaro, V. Fusco, E. Giovannozzi, P. Lauber, G. Vlad and **F. Zonca**, *On the polarization of shear Alfvén and acoustic continuous spectra in toroidal plasmas*, Journal of Plasma Physics **86**, 845860501-p1-p15, (2020). Journal Impact Factor: 2.014.
- 42.** X. Tao, **F. Zonca**, L. Chen and Y. Wu, *Controlling the chirping of chorus waves via magnetic field inhomogeneity*, Geophysical Research Letters **47**, e2020GL087791-p1-p8, (2020). Journal Impact Factor: 4.720.
- 43.** X. Tao, **F. Zonca**, L. Chen and Y. Wu, *Theoretical and numerical studies of chorus waves: A review*, Science China Earth Sciences **63**, 78-92, (2020). Journal Impact Factor: 4.368.
- 44.** L. Chen and **F. Zonca**, *Self-consistent kinetic theory with nonlinear wave-particle resonances*, Plasma Science and Technology **21**, 125101-p1-p7, (2019). Journal Impact Factor: 1.358.
- 45.** M. V. Falessi, N. Carlevaro, V. Fusco, G. Vlad and **F. Zonca**, *Shear Alfvén and acoustic continuum in general axisymmetric toroidal geometry*, Physics of Plasmas **26**, 082502-p1-p11, (2019). Journal Impact Factor: 1.83.
- 46.** G. Pucella, E. Alessi, B. Angelini, M.L. Apicella, G. Apruzzese, G. Artaserse, B. Baiocchi, F. Belli, W. Bin, F. Bombarda, L. Boncagni, A. Botrugno, S. Briguglio, A. Bruschi, P. Buratti, G. Calabrò, M. Cappelli, A. Cardinali, D. Carnevale, L. Carraro, C. Castaldo, F. Causa, S. Ceccuzzi, C. Centioli, R. Cesario, C. Cianfarani, G. Claps, V. Cocilovo, F. Cordella, F. Crisanti, O. D’Arcangelo, M. De Angeli, C. Di Troia, B. Esposito, F. Fanale, D. Farina, L. Figini, G. Fogaccia, D. Frigione, V. Fusco, L. Gabellieri, S. Garavaglia, E. Giovannozzi, G. Gittini, G. Granucci, G. Grosso, M. Iafrati, F. Iannone, L. Laguardia, E. Lazzaro, M. Lontano, G. Maddaluno, S. Magagnino, M. Marinucci, D. Marocco, G. Mazzitelli, C. Mazzotta, V. Mellerà, A. Milovanov, D. Minelli, F.C. Mirizzi, A. Moro, S. Nowak, D. Pacella, F. Pallotta, L. Panaccione, M. Panella, V. Pericoli-Ridolfini, A. Pizzuto, S. Podda, M.E. Puiatti, G. Ramogida, G. Ravera, D. Ricci, A. Romano, A. Simonetto, C. Sozzi, U. Tartari, A.A. Tuccillo, O. Tudisco, M. Valisa, B. Viola, E. Vitale, G. Vlad, B. Zeniol, M. Zerbini, **F. Zonca**, M. Aquilini, P. Cefali, E. Di Ferdinando, S. Di Giovenale, G. Giacomi, A. Grosso, M. Mezzacappa, A. Pensa, P. Petrolini, V. Piergotti, B. Raspante, G. Rocchi, A. Sibio, B. Tilia, R. Tulli, M. Vellucci, D. Zannetti, S. Almaviva, F. Bagnato, G. Brolatti, A. Buscarino, L. Calacci, L. Caneve, M. Carlini, F. Colao, C. Corradino, P. Costa, F. Crescenzi, A. Cucchiaro, A. Doria, G. Ferrò, A. Gabrielli, S. Galeani, C. Galperti, P. Gasior, E. Giovenale, M. Gospodarczyk, L. Jakubowski, M. Kubkowska, A. Lampasi, V. Lazic, L. Lubyako, G. Maffia, F. Martinelli, J.R. Martin Solis, F. Maviglia, R. Mazzuca, M. Moneti, F.P. Orsitto, A. Palucci, M. Passeri, Z. Popovic, C. Possieri, M. Rabinski, S. Ratynskaia, M. Reale, S. Roccella, M. Sassano, F. Starace, P. Talias, A. Vertkov, J. Zebrowski and P. Zito, *Overview of the FTU results*, Nuclear Fusion **59**, 112015-p1-p11, (2019). Journal Impact Factor: 3.706.
- 47.** Z. Qiu, L. Chen, **F. Zonca** and W. Chen, *Nonlinear excitation of a geodesic acoustic mode by toroidal Alfvén eigenmodes and the impact on plasma performance*, Nuclear Fusion **59**, 066031-p1-p11, (2019). Journal Impact Factor: 3.706.

48. Z. Qiu, L. Chen and **F. Zonca**, *Gyrokinetic theory of the nonlinear saturation of a toroidal Alfvén eigenmode*, Nuclear Fusion **59**, 066024–p1-p11, (2019). Journal Impact Factor: 3.706.
49. M. Garcia-Munoz, S. E. Sharapov, M. A. Van Zeeland, E. Ascasibar, A. Cappa, L. Chen, J. Ferreira, J. Galdon-Quiroga, B. Geiger, J. Gonzalez-Martin, W. W. Heidbrink, T. Johnson, Ph. Lauber, M. Mantsinen, A. V. Melnikov, F. Nabais, J. F. Rivero-Rodriguez, L. Sanchis-Sanchez, P. Schneider, J. Stober, W. Suttrop, Y. Todo, P. Vallejos, **F. Zonca** and the AUG and MST1 Teams, *Active control of Alfvén eigenmodes in magnetically confined toroidal plasmas*, Plasma Physics and Controlled Fusion **61**, 054007–p1-p12, (2019). Journal Impact Factor: 2.829.
50. Z. X. Lu, X. Wang, Ph. Lauber, E. Fable, A. Bottino, W. Hornsby, T. Hayward-Schneider, **F. Zonca** and C. Angioni, *Theoretical studies and simulations of mode structure symmetry breaking in tokamak plasmas in the presence of energetic particles*, Plasma Physics and Controlled Fusion **61**, 044005–p1-p13, (2019). Journal Impact Factor: 2.829.
51. M. V. Falessi and **F. Zonca**, *Transport theory of phase space zonal structures*, Physics of Plasmas **26**, 022305-p1-p9, (2019). Journal Impact Factor: 1.83.
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- 148.** F. Romanelli and **F. Zonca**, *The radial correlation length of electrostatic turbulence*, in Proceedings of the 20th EPS Conference on Controlled Fusion and Plasma Physics; J.A.C. Cabral, M.E. Manso, F.M. Serra and F.C. Schuller Eds.; Lisboa, Portugal, vol. 4, p. 1387-90, (1993). Edited by the European Physical Society, Lisboa, Portugal, (1993).
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- 152.** E. Barbato, S. Briguglio, A. Cardinali, L. Chen, B.G. Hong, C. Imperiali, A. Nocentini, M. Ottaviani, F. Romanelli, G. Vlad, **F. Zonca**, *Models of Energy Transport based on Microinstability Theory*, in Proceedings of the 13th IAEA International Conference, Washington, D.C., U.S.A., vol.2, p. 367, (1990). Edited by IAEA, Vienna, Austria, (1991).
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- 154.** S. Briguglio, F. Romanelli, G. Vlad, **F. Zonca**, *Finite- β_e effects on current driven drift waves*, in Proceedings of the International Workshop on Small Scale Turbulence and Anomalous Transport in Magnetized Plasmas, p.275-8, D. Gresillon and M.A. Dubois Eds., Cargese, France, 1986; Editions Phys., Les Ulis, France; published by Ecole Polytech, Palaiseau, France (1986).

**Invited
Talks: 53**

- 1. F. Zonca**, L. Chen, M. V. Falessi and Z. Qiu, *On the self-consistent evolution of the zonal state*. Presented at The 14th International West Lake Symposium – Frontier Progress in Fusion Energy Research and Development, Hangzhou, China, May 26-28, 2023. <http://ifts.zju.edu.cn/about/?141.html?lg=en>

2. **F. Zonca** and the DTT Team, *The role of the Divertor Tokamak Test facility in the Italian and European magnetic fusion programs*. Invited talk presented at the 20.th International Congress on Plasma Physics, November 27 - December 2, 2022, Hico, Gyeongju, Korea.
3. **F. Zonca**, *Nonlinear gyrokinetic theory of Alfvénic fluctuations and energetic particle transport*. Energetic Particle Physics Seminars - Princeton Plasma Physics Laboratory, May 18.th (2022).
4. **F. Zonca**, *Alfvénic fluctuations and alpha particle transport in burning plasmas*. Department of Physics and Astronomy Colloquium given at Dartmouth College, April 22.nd (2022).
5. **F. Zonca**, *Nonlinear wave-particle dynamics in chorus excitation*. Physics Department Colloquium given at Zhejiang University, Hangzhou, China, May 31.st (2019); and at University of Science and Technology of China, Hefei, June 11.th (2019).
6. **F. Zonca**, L. Chen, M. V. Falessi and Z. Qiu, *On nonlinear dynamics of phase space zonal structures*. Plenary talk presented at the 2nd Asia-Pacific Conference on Plasma Physics, Kanazawa, Japan, November 12-17, (2018). <http://www.aappsdp.org/DPP2018/>
7. **F. Zonca**, L. Chen, M. Garcia-Munoz and L. Sanchis-Sanchez, *Nonlinear Wave-Particle Resonances due to Imposed Magnetic Perturbations*. Presented at the 27th International Toki Conference on Plasma and Fusion Research & the 13th Asia Pacific Plasma Theory Conference, Ceratopia Toki, Toki-city, Gifu, Japan, November 19-22, (2018). <http://itc.nifs.ac.jp>
8. **F. Zonca**, *Physics of Energetic Particles and Alfvén Waves*. Presented at the 17th European Fusion Theory Conference, Athens, Greece, October 9th-12th (2017). <http://www.astro.auth.gr/~eftc17/Homepage.html>
9. **F. Zonca** and L. Chen, *The fishbone burst cycle*. Presented at The Trilateral International Workshop on Energetic Particle Physics, Hangzhou, China, November 10th-12th (2017). <http://ifts.zju.edu.cn/iftsnew/index.php?CONTENT=Meeting&LANG=CN&action=full&page=1&id=11>
10. **F. Zonca**, L. Chen, M. V. Falessi and Z. Qiu, *On the nonlinear dynamics of phase space zonal structures*. Presented at the 11th West Lake International Symposium on Energetic Particle Physics and Microturbulence in Magnetic Fusion, Hangzhou, China, April 24th-26th (2017). <http://register.ifts-zju.org:8888>
11. **F. Zonca**, L. Chen, N. Carlevaro, M. Falessi, A. V. Milovanov, G. Montani and D. Terzani, *Nonlinear dynamics and transport processes in the beam-plasma system*. Presented at the 10th West Lake International Symposium on Magnetic Fusion and 12th Asia Pacific Plasma Theory Conference - Hangzhou, China, May 9th-12th (2016). <http://ifts.zju.edu.cn/wlis-apptc2016/index.php>
12. **F. Zonca**, *Wave-particle interactions and nonlinear dynamics in magnetized plasmas*. Colloquium at the Mathematics Department, University of Bologna, Bologna, Italy, 16 June (2015).
13. **F. Zonca** and L. Chen, *Energetic particles and multi-scale dynamics in fusion plasmas*. Presented at the Workshop on Tearing Modes and Energetic Particles, Aix-en-Provence, France, 10 - 12 June (2015).
14. **F. Zonca**, L. Chen, S. Briguglio, G. Fogaccia, A. V. Milovanov, Z. Qiu, G. Vlad and X. Wang, *Energetic particles and multi-scale dynamics in fusion plasmas*. I2.004. Presented at the 41.st EPS Conference on Plasma Physics, Berlin, Germany, June 23 - 27 June (2014).
15. **F. Zonca** S. Briguglio, L. Chen, G. Fogaccia, A.V. Milovanov, G. Vlad and X. Wang, *Physics of magnetically confined thermonuclear plasmas*. Presented at the Italian National Conference on Condensed Matter Physics (FisMat 2013), Politecnico di Milano, Milan, Italy, September 9 - 13 (2013).

16. **F. Zonca** and L. Chen, *Nonlinear physics of shear Alfvén waves*. Presented at the 20th Topical Conference on Radio Frequency Power in Plasmas, Sorrento, Italy, June 25 - 28 (2013).
17. **F. Zonca**, S. Briguglio, L. Chen, G. Fogaccia, G. Vlad and X. Wang, *Nonlinear dynamics of phase-space zonal structures and energetic particle physics*. Presented at the 6th IAEA Technical Meeting on “Theory of Plasmas Instabilities”, Vienna, Austria, May 27 - 29 (2013).
18. **F. Zonca**, S. Briguglio, L. Chen, G. Fogaccia, G. Vlad and X. Wang, *Nonlinear dynamics of phase-space zonal structures and energetic particle physics*. Presented at the 7th International West Lake Symposium on Magnetic Fusion Research, Institute for Fusion Theory and Simulation, Zhejiang University, Hangzhou, China, May 6 - 10 (2013).
19. **F. Zonca**, *Linear and nonlinear theory of Alfvén modes in toroidal plasmas*. Presented at the Winter School on Nonlinear Energetic Particle Physics in Burning Plasmas, University of California, Irvine, USA, Jan. 9 - 10, (2012).
20. **F. Zonca** and L. Chen, *Physics of TAE Modes in Tokamaks*. Presented at the 2011 Joint ITER-IAEA-ICTP Advanced Workshop on Fusion and Plasma Physics, Trieste, Italy, Oct. 3 - 14, (2011).
21. **F. Zonca** and L. Chen, *Recent progress and future prospects in energetic particle physics in toroidal plasmas*. Presented at the 20th International Toki Conference (ITC-20) on The Next Twenty Years in Plasma and Fusion Science, Ceratopia Toki, Toki-City, Gifu, Japan, Dec. 7 - 10, (2010).
22. **F. Zonca** and L. Chen, *Alfvénic turbulence in tokamaks: from micro- to meso-scale fluctuations*. Presented at the Workshop on Kinetic-scale turbulence in laboratory and space plasmas: empirical constraints, fundamental concepts and unsolved problems, Cambridge, UK, July 19 - 23, (2010).
23. **F. Zonca**, *Relationship of low frequency shear Alfvén spectrum to MHD and microturbulence*. Presented at the Theory Festival: Rotation and Momentum Transport in Magnetized Plasmas, July 6 - 24, (2009). Aix en Provence, France.
24. **F. Zonca**, on behalf of the FAST Physics Team, *The FAST Proposal*. Presented at the 36.th EPS Conference on Plasma Physics, Sofia, Bulgaria, June 29 - July 3, (2009).
25. **F. Zonca**, *On the Ballooning Formalism*. Presented at the Gyrokinetic Theory and Numerics high level course of the EFDA project “Goal Oriented Training in Theory”, IPP, Garching, Germany, 3 - 14 November, (2008).
26. **F. Zonca**, *Nonlinear dynamics and complex behaviors in magnetized plasmas of fusion interest*. Presented at the International Workshop on the Frontiers of Modern Plasma Physics, ASICTP, Trieste, Italy, 14 - 25 July, (2008).
27. **F. Zonca**, *Structures of the low frequency Alfvén continuous spectrum and their consequences on MHD and micro-turbulence*. Presented at the Tore Supra Workshop, Cadarache, France, 16 - 18 January, (2008).
28. **F. Zonca**, S. Briguglio, L. Chen, G. Fogaccia, T.S. Hahm, A.V. Milovanov and G. Vlad, *Physics of Burning Plasmas in Toroidal Magnetic Field Devices*. Presented at the 12th European Fusion Theory Conference, Madrid, Spain, September 24 - 27, (2007).
29. **F. Zonca**, S. Briguglio, L. Chen, G. Fogaccia, A.V. Milovanov and G. Vlad, *Alfvén mode excitations and resonant wave-particle interactions in burning plasmas: examples of nonlinear dynamics in complex systems*. Presented at the Workshop on Complexity in Plasma and Geospace Systems, Geilo, Norway, March 4 - 9, (2007).

- 30. F. Zonca**, S. Briguglio, L. Chen, G. Fogaccia, T.S. Hahm, A.V. Milovanov and G. Vlad, *Physics of burning plasmas in toroidal confinement devices*. Presented at the 33.rd EPS Conference on Plasma Physics, Roma, Italy, June 19 - 23, (2006).
- 31. F. Zonca**, *Energetic particle physics in burning plasmas*. Presented at the Workshop on China-ITER Simulation, Beijing, China, May 15 - 19, (2006).
- 32. F. Zonca**, *Multiple space-time structures of low-frequency fluctuations in toroidal systems*. Presented at the 4th Workshop on Nonlinear Plasma Sciences and International School on Plasma Turbulence and Transport, Hangzhou, China, August 30 - September 3, (2005).
- 33. F. Zonca**, *Fast ion induced collective effects and resonant transport in burning plasmas*. Presented at the 4th Workshop on Nonlinear Plasma Sciences and International School on Plasma Turbulence and Transport, Hangzhou, China, August 30 - September 3, (2005).
- 34. F. Zonca**, *MHD instabilities and fast particles*. Presented at the Theory Festival: Turbulence overshoot and resonant structures in fusion and astrophysical plasmas. July 4-22, (2005). Aix en Provence, France.
- 35. F. Zonca**, L. Chen, Z. Lin and R.B. White, *Comparative studies of nonlinear ITG and ETG dynamics*. Presented at the Second IAEA Technical Meeting on the Theory of Plasma Instabilities: Transport, Stability and their Interaction, Trieste, Italy, 2-4 March (2005).
- 36. F. Zonca**, L. Chen and R.B. White, *Multiple space-time structures of Ion Temperature Gradient driven turbulence*. Presented at the Joint Varenna-Lausanne International Workshop on Theory of Fusion Plasmas, Varenna, Italy, August 30 - September 3, (2004).
- 37. F. Zonca**, R.B. White and L. Chen, *Non-linear Paradigm for Drift Wave - Zonal Flow interplay: coherence, chaos and turbulence*, Bulletin of the American Physical Society, **48**, No. 7, 330, (2003). Presented at the 45th Annual Meeting of the APS Division of Plasma Physics, Albuquerque, New Mexico. October 27-31, (2003).
- 38.** L. Chen, R.B. White and **F. Zonca**, *Zonal flow dynamics and size-scaling of anomalous transport*. Presented at the 2003 International Sherwood Theory Conference, Corpus Christi, Texas, April 28-30, (2003).
- 39. F. Zonca** and L. Chen, *Nonlinear Dynamics of Drift-Alfvén Turbulence in Tokamaks*. Presented at the 7.th Easter Meeting, Turin, Italy, Apr. 3-5, (2002).
- 40. F. Zonca** and L. Chen, *Zonal flow dynamics of e.m. drift-Alfvén waves and related mode structures*. Presented at the IAEA Technical Meeting on Theory of Plasma Instabilities, Kloster Seeon, Germany, Apr. 9-12, (2002).
- 41. F. Zonca**, L. Chen, S. Briguglio and G. Vlad, *Role of resonant vs non-resonant wave-particle interactions in electromagnetic turbulence*. Presented at the Theory Festival: Self Organization and Transport in Electromagnetic Turbulence. July 2-20, (2001). Aix en Provence, France.
- 42. F. Zonca**, S. Briguglio, L. Chen, G. Fogaccia and G. Vlad, *Theoretical Aspects of Collective Mode Excitations by Energetic Ions in Tokamaks*. Presented at the Joint Varenna-Lausanne International Workshop on Theory of Fusion Plasmas, Varenna, Italy, August 28 - September 1, 2000.
- 43. F. Zonca** and L. Chen, *Effect of zonal fields on electromagnetic drift turbulences*. Presented at the *Secondo Convegno Nazionale su "La Fisica del Plasma in Italia"*, Cetraro (I) - September 20 - 23, (2000).
- 44. F. Zonca**, S. Briguglio, L. Chen, G. Fogaccia and G. Vlad, *Theoretical aspects of collective mode excitations by energetic ions in tokamaks*. Presented at the 6.th Easter Plasma Meeting, Villa Gualino, Torino, Italy, April 17-19, (2000).

45. **F. Zonca**, in collaboration with S. Briguglio, L. Chen, G. Fogaccia and G. Vlad *Theoretical aspects of collective mode excitations by energetic ions in tokamaks*,. Presented within the series of seminars on “Frontiers of theoretical plasma physics” at IPP in Garching, Germany, February 7, 2000.
46. **F. Zonca**, In collaboration with L. Chen, J.Q. Dong and R.A. Santoro, *Existence of ion temperature gradient driven shear Alfvén instabilities in tokamaks*. Presented at CEA in Cadarache, France, January 21, 2000.
47. **F. Zonca**, S. Briguglio, G. Fogaccia and G. Vlad, *Alfvén Instabilities Effects on Energetic Particles*. In Proceedings of 13th RF Conference, Annapolis, MD, USA, (1999). AIP Conference Proceedings 485, pp. 56-65, S. Bernabei and F. Paoletti Eds., AIP, New York, USA, 1999.
48. **F. Zonca**, *Existence of ion temperature gradient driven shear Alfvén instabilities in tokamaks*, Bulletin of American Physical Society, **43**, 1921 (1998). Presented at the XL Annual Meeting of the American Physical Society, Division of Plasma Physics, New Orleans, Louisiana, USA.
49. **F. Zonca**, *Eccitazione di onde di Alfvén in plasmi di laboratorio (Alfvén Wave excitation in laboratory plasmas)*, *Relazione su invito*, LXXXIV Congresso Nazionale della Società Italiana di Fisica, Salerno, p. 124, (1998).
50. **F. Zonca**, L.Chen, J.Q. Dong and R.A. Santoro, *Existence of ion temperature gradient driven shear Alfvén instabilities in tokamaks*, paper 3B01, 1998 International Sherwood Fusion Theory Conference, Atlanta, Georgia, USA.
51. **F. Zonca**, L. Chen, G. Hu and R.A. Santoro, *Nonlinear Dynamics of Alfvén Eigenmodes in Toroidal Plasmas*, in Proceedings of the Second Asian Pacific Plasma Theory Conference APPTC '97; Y. Tomita, Y. Nakamura and T. Hayashi Eds.; Research Report NIFS-PROC Series NIFS-PROC-38, p. 15-20, Aug. 1998, Nagoya, Japan, (1998).
52. **F. Zonca**, *Modi di shear Alfvén destabilizzati da particelle energetiche con orbite finite (Shear Alfvén modes excited by energetic particles with finite orbit width)*, *Relazione su invito*, LXXX Congresso Nazionale della Società Italiana di Fisica, Lecce, p. 99, (1994).
53. **F. Zonca**, *Alfvénic instabilities driven by energetic alpha particles*, presented at the 20th EPS Conference on Controlled Fusion and Plasma Physics, Lisbon, Portugal, (1993). Published in: Plasma Physics and Controlled Fusion, **35**, suppl. no.12B, B307-17, (1993).

**Laboratory
Reports: 5**

1. A. Pizzuto, F. Crisanti, **F.Zonca**, A.A. Tuccillo, M.L. Apicella, G. Calabrò, A. Cardinali, R. Cesario, V. Cocilovo, A. Coletti, R. Coletti, P. Costa, S. Briguglio, P. Frosi, F. Crescenzi, A. Cucchiaro, C. Di Troia, B. Esposito, G. Fogaccia, G. Maddaluno, M. Marinucci, D. Marocco, G. Mazzitelli, F. Mirizzi, L. Panaccione, G.L. Ravera, F. Orsitto, V. Pericoli Ridolfini, G. Ramogida, C. Rita, R. Villari, G. Vlad, F. Gnesotto, P. Martin, M. Valisa, A. Bruschi, M. Lontano, G. Granucci, S. Nowak, R. Albanese, G. Ambrosino, V. Coccoresse, R. Maggiore, R. Zagorski, *FAST - The Fusion Advanced Studies Torus: “A proposal for a facility in support of the development of fusion energy”*, ENEA report RT/2008/44/FPN, Roma (2008).
2. G. Vlad, **F.Zonca**, F. Romanelli and C. Kar, *Linear and nonlinear dynamics of Alfvén Eigenmodes in Tokamaks*, ENEA report RT/ERG/FUS/94/16, Roma (1994).
3. G. Vlad, S. Briguglio, C. Kar, **F.Zonca** and F. Romanelli, *Linear and nonlinear stability of Toroidal Alfvén Eigenmodes using a hybrid code*, Istituto di Fisica del Plasma-CNR Meeting on Nonlinear Problems in Plasma, FP93/24, Milano (1993).
4. E.Barbato, S.Briguglio, A.Cardinali, L.Chen, B.G.Hong, C.Imperiali, A.Nocentini, M.Ottaviani, F.Romanelli, G.Vlad, **F.Zonca**, *Models of Energy Transport based on Microinstability Theory*, ENEA report RT/NUCL/90/40, Roma (1990).

5. E.Barbato, S.Briguglio, A.Cardinali, G.Cenacchi, M.Ottaviani, F. Romanelli, G.Vlad, **F.Zonca**, *Microinstability based models of anomalous energy transport in tokamaks*, ENEA report RT/FUS/89/1, Roma (1989).

Fulvio Zonca
List of Conference Contributions without published Proceedings

**Conference
Contributions
without
Proceedings:
206**

1. Z. Qiu, T. Wang, **F. Zonca**, L. Chen and S. Wei, *Universal behaviour of frequency chirping fluctuations in magnetized plasmas*. Presented at the Italian Plasma Physics Conference – CMD30 FisMat 2023 Milano, September 4-8, (2023).
2. Z. Qiu, T. Wang, **F. Zonca**, L. Chen and S. Wei, *Core localized alpha-channeling via low frequency Alfvén mode generation in reversed shear scenarios*. Presented at the 28th Meeting of ITPA Topical Group on Energetic Particle Physics, Nov. 21 - 25, (2022).
3. G. Vlad, X. Wang, F. Vannini, S. Briguglio, N. Carlevaro, M. Falessi, G. Fogaccia, V. Fusco, **F. Zonca**, A. Biancalani, A. Bottino, YT. Hayward-Schneider and Ph. Lauber, *Linear and non-linear benchmark between HYMAGYC, MEGA and ORB5 codes using the NLED-AUG test case to study Alfvénic modes driven by energetic particles*. Presented at the 28th Meeting of ITPA Topical Group on Energetic Particle Physics, Nov. 21 - 25, (2022).
4. X. Wang, S. Briguglio, C. Di Troia, G. Fogaccia, M. Falessi, V. Fusco, G. Vlad, **F. Zonca**, A. Mishchenko, A. Bottino, A. Biancalani, T. Hayward-Schneider, Ph. Lauber, F. Vannini and L. Villard, *Nonlinear dynamics of nonadiabatic chirping-frequency energetic particle mode in tokamak plasmas*. Presented at the 28th Meeting of ITPA Topical Group on Energetic Particle Physics, Nov. 21 - 25, (2022).
5. Z. Qiu, L. Chen and **F. Zonca**, PL-34, *Gyrokinetic theory of TAE saturation via nonlinear wave-wave coupling*. Presented at the 6th Asia-Pacific Conference on Plasma Physics – Remote e-conference Oct. 9 - 14, (2022).
6. M. V. Falessi, **F. Zonca**, Z. Qiu, L. Chen and Y. Li, MF1-I17, *Energetic particle nonlinear equilibria and transport processes in burning plasmas*. Presented at the 6th Asia-Pacific Conference on Plasma Physics – Remote e-conference Oct. 9 - 14, (2022).
7. L. De Fabrizio, M. V. Falessi, Z. Qiu and **F. Zonca**, FP-9, *Linear and nonlinear KAW physics in cylindrical plasmas*. Presented at the 6th Asia-Pacific Conference on Plasma Physics – Remote e-conference Oct. 9 - 14, (2022).
8. L. Chen, Z. Qiu and **F. Zonca**, *On scattering and damping of toroidal Alfvén eigenmode by drift wave turbulence*. Presented at the 27th ITPA-EP Topical Group Meeting, May 2-6 (2022).
9. M.V. Falessi, **F. Zonca**, Z. Qiu and L. Chen, *Energetic particle nonlinear equilibria and transport processes in burning plasmas*. Presented at the 27th ITPA-EP Topical Group Meeting, May 2-6 (2022).
10. L. Chen, Z. Qiu and **F. Zonca**, *On scattering and damping of toroidal Alfvén eigenmode by drift wave turbulence*. Presented at the 2022 US-EU Joint Transport Task Force, Santa Rosa, California, Apr. 5 - 8 (2022).
11. X. Tao, **F. Zonca** and L. Chen, A “Trap-Release-Amplify” Model of Chorus Waves. Presented at the AGU Fall Meeting, New Orleans, LA & Online Everywhere, Dec. 13 - 17, (2021).
12. Y. Li, L. Chen, R. Ma and **F. Zonca**, CD-I10, *Numerical study of kinetic low frequency electromagnetic continuous spectrum with the DAEPS code*. Presented at the 5th Asia-Pacific Conference on Plasma Physics – Remote e-conference Sep. 26 - Oct. 1, (2021).

13. Z. Qiu, L. Chen and **F. Zonca**, CD-O3, *Gyrokinetic theory of toroidal Alfvén eigenmodes nonlinear saturation via ion induced scattering*. Presented at the 5th Asia-Pacific Conference on Plasma Physics – Remote e-conference Sep. 26 - Oct. 1, (2021).
14. X. Wang, S. Briguglio, G. Vlad, C. Di Troia, M. Falessi, G. Fogaccia, V. Fusco, Ph. Lauber, G. Meng and **F. Zonca**, F-I32, *Nonlinear dynamics of frequency chirping energetic particle driven modes in fusion plasmas*. Presented at the 5th Asia-Pacific Conference on Plasma Physics – Remote e-conference Sep. 26 - Oct. 1, (2021).
15. H. Jhang, J. Kang, M. Kim, J. Kim, M. Choi, I. Chavdarovski, S. I. Lee, G. Y. Fu, L. Chen, Z. Y. Qiu, **F. Zonca** and M. V. Falessi, CD-I19, *Onset and evolution of energetic passing particle driven instabilities in KSTAR*. Presented at the 5th Asia-Pacific Conference on Plasma Physics – Remote e-conference Sep. 26 - Oct. 1, (2021).
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19. Z. Qiu, L. Chen and **F. Zonca**, *Nonlinear saturation and energetic particle transport by toroidal Alfvén eigenmodes*. Presented at the 9th Chinese Symposium on Magnetic Fusion Theory and Simulation, Nanchang, China, Sept. 18 - 20, (2020).
20. M. V. Falessi and **F. Zonca**, *Phase space structure formation in magnetized plasmas*. Presented at the 106th National Congress of the Italian Physical Society – Remote e-conference Sep. 14 - 18, (2020).
21. **F. Zonca**, X. Tao and L. Chen, *A theoretical framework of chorus wave excitation*. Presented at the 2nd Trilateral International Workshop on Energetic Particle Physics – Seoul, Korea, November 10 - 12, (2019).
22. M. V. Falessi and **F. Zonca**, *Gyrokinetic transport theory of phase space zonal structures*. Presented at the 2nd Trilateral International Workshop on Energetic Particle Physics – Seoul, Korea, November 10 - 12, (2019).
23. **F. Zonca**, L. Chen, M. V. Falessi, Z. Qiu and S. Briguglio, *Gyrokinetic transport theory of phase space zonal structures*. Oral MF-O10. Presented at the 3rd Asia-Pacific Conference on Plasma Physics – Hefei, China, November 4 - 8, (2019). <http://aappsdp.org/DPP2019Program/index.html>
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50. C. Di Troia, A. Biancalani, A. Bottino, S. Briguglio, G. Fogaccia, Ph. Lauber, G. Vlad and **F. Zonca**, *Equilibrium distribution functions for gyrokinetic studies of realistic tokamak scenarios*. Presented at the 16th European Fusion Theory Conference, Lisbon, Portugal, October 5 - 8 (2015).

51. A. Biancalani, A. Bottino, S. Briguglio, M. Cole, C. Di Troia, A. Könies, Ph. Lauber, A. Mishchenko, B. Scott and **F. Zonca**, *Non-perturbative nonlinear interplay of Alfvén modes and energetic ions*. Presented at the 14.th IAEA Technical Meeting on Energetic Particles in Magnetic Confinement Systems, Vienna, Austria, September 1 - 4 (2015).
52. X. Wang, S. Briguglio, Ph. Lauber, A. Bierwage and **F. Zonca**, *Structure of wave-particle interactions in nonlinear Alfvénic fluctuation dynamics*. Presented at the 14.th IAEA Technical Meeting on Energetic Particles in Magnetic Confinement Systems, Vienna, Austria, September 1 - 4 (2015).
53. *Invited Presentation*: **F. Zonca**, *Wave-particle interactions and nonlinear dynamics in magnetized plasmas*. Colloquium at the Mathematics Department, University of Bologna, Bologna, Italy, 16 June (2015).
54. *Invited Presentation*: **F. Zonca** and L. Chen, *Energetic particles and multi-scale dynamics in fusion plasmas*. Presented at the Workshop on Tearing Modes and Energetic Particles, Aix-en-Provence, France, 10 - 12 June (2015).
55. **F. Zonca**, L. Chen, Z. Qiu, S. Briguglio, G. Fogaccia, A. V. Milovanov, G. Vlad and X. Wang, *Role of phase locking in nonlinear dynamics of fishbones and EPs*. Presented at the 7.th IAEA Technical Meeting on Theory of Plasma Instabilities, Frascati, Italy, March 4 - 6 (2015).
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57. M. V. Falessi, F. Pegoraro, N. Carlevaro, G. Montani and **F. Zonca**, *Transport processes in plasma physics: a new approach*. Presented at the 7.th IAEA Technical Meeting on Theory of Plasma Instabilities, Frascati, Italy, March 4 - 6 (2015).
58. V. Fusco, G. Vlad, S. Briguglio, G. Fogaccia, C. Di Troia, and **F. Zonca**, *Analysis of the electron fishbone instability with the XHMGC code*. Presented at the 7.th IAEA Technical Meeting on Theory of Plasma Instabilities, Frascati, Italy, March 4 - 6 (2015).
59. X. Wang, S. Briguglio, Ph. Lauber, M. Schneller, G. Fogaccia, G. Vlad and **F. Zonca**, *Structure of wave-particle interactions in nonlinear beta induced Alfvén eigenmode dynamics*. Presented at the 7.th IAEA Technical Meeting on Theory of Plasma Instabilities, Frascati, Italy, March 4 - 6 (2015).
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62. *Invited Presentation*: **F. Zonca**, L. Chen, S. Briguglio, G. Fogaccia, A. V. Milovanov, Z. Qiu, G. Vlad and X. Wang, *Energetic particles and multi-scale dynamics in fusion plasmas*. I2.004. Presented at the 41.st EPS Conference on Plasma Physics, Berlin, Germany, June 23 - 27 June (2014).
63. **F. Zonca** and L. Chen, *Spontaneous excitation of convective cells by kinetic Alfvén waves*. Presented at the 2014 International Sherwood Fusion Theory Conference, San Diego, California, March 24 - 26 (2014).

- 64. F. Zonca** and L. Chen, *Energetic Particle Modes: example of Autoresonance and Superradiance in fusion plasmas*. Bulletin of the American Physical Society 58, No. 16, 177, (2013). <http://meetings.aps.org/Meeting/DPP13/paper/JP8.00107>. Presented at the 55th Annual Meeting of the APS Division of Plasma Physics, Denver, Colorado, November 11-15 (2013).
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- 66. Z. Lu, F. Zonca and A. Cardinali**, *The Mixed WKB-Full-Wave Approach and Its Application to Lower Hybrid Wave Propagation and Absorption*. Bulletin of the American Physical Society 58, No. 16, 387, (2013). <http://meetings.aps.org/Meeting/DPP13/paper/YP8.00050>. Presented at the 55th Annual Meeting of the APS Division of Plasma Physics, Denver, Colorado, November 11-15 (2013).
- 67. F. Zonca** and L. Chen, *Energetic Particle Modes: example of Autoresonance and Superradiance in fusion plasmas*. Presented at the First ENEA-IFTS Workshop on Fusion Theory and Simulation, Taormina, October 2 - 4 (2013).
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- 69. S. Briguglio, X. Wang, F. Zonca, L. Chen, G. Vlad, G. Fogaccia and V. Fusco**, *Nonlinear dynamics of Alfvén waves and energetic particle phase-space structures in toroidal plasmas*. Presented at the First ENEA-IFTS Workshop on Fusion Theory and Simulation, Taormina, October 2 - 4 (2013).
- 70. G. Vlad, S. Briguglio, G. Fogaccia, F. Zonca and X. Wang**, *Linear and nonlinear simulations of electron fishbone in tokamak equilibria using XHMGC*. Presented at the First ENEA-IFTS Workshop on Fusion Theory and Simulation, Taormina, October 2 - 4 (2013).
- 71. Z. Qiu, L. Chen and F. Zonca**, *Nonlinear excitation of Geodesic Acoustic Mode by Collisionless Trapped Electron Mode*. Presented at the First ENEA-IFTS Workshop on Fusion Theory and Simulation, Taormina, October 2 - 4 (2013).
- 72. A. Cardinali, Z. Lu and F. Zonca**, *The mixed WKB-Full-Wave approach and its application to Lower Hybrid wave propagation and absorption*. Presented at the First ENEA-IFTS Workshop on Fusion Theory and Simulation, Taormina, October 2 - 4 (2013).
- 73. L. Chen and F. Zonca**, *Physics of Alfvén waves*. Presented at the 12th Asia Pacific Physics Conference, Chiba, Japan, July 14 - 19 (2013).
- 74. Z. Qiu, L. Chen and F. Zonca**, *Spontaneous Excitation of Geodesic Acoustic Mode by Toroidal Alfvén Eigenmodes*. Presented at the 12th Asia Pacific Physics Conference, Chiba, Japan, July 14 - 19 (2013).
- 75. G. Vlad, S. Briguglio, G. Fogaccia, F. Zonca and X. Wang**, *Linear and nonlinear simulations of electron fishbone in tokamak equilibria using XHMGC*. Presented at the 13th IAEA Technical Meeting on Energetic Particles, Beijing, China, September 17 - 20 (2013).
- 76. X. Wang, S. Briguglio, L. Chen, G. Fogaccia, G. Vlad and F. Zonca**, *Simulation studies on nonlinear wave-energetic particle interactions*. Presented at the 13th IAEA Technical Meeting on Energetic Particles, Beijing, China, September 17 - 20 (2013).

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- 78.** S. Briguglio, **F. Zonca**, L. Chen, X. Wang, G. Vlad, G. Fogaccia and V. Fusco, *Nonlinear dynamics of Alfvén modes in tokamaks investigated by phase-space numerical diagnostics*. Presented at the Italian National Conference on Condensed Matter Physics (FisMat 2013), Politecnico di Milano, Milan, Italy, September 9 - 13 (2013).
- 79.** X. Wang, S. Briguglio, L. Chen, G. Fogaccia, G. Vlad and **F. Zonca**, *Progress of simulations with hybrid magnetohydrodynamic gyrokinetic code*. Presented at the 12th Asia Pacific Physics Conference, Chiba, Japan, July 14 - 19 (2013).
- 80.** X. Wang, S. Briguglio, G. Fogaccia, G. Vlad, **F. Zonca** and L. Chen, *Non-uniformity effect on nonlinear wave and energetic particle interactions*. Presented at the 3rd Asia-Pacific Transport Working Group (APTWG) International Conference, Jeju-Island, Korea, May 21 - 24 (2013).
- 81.** Z. X. Lu, **F. Zonca** and A. Cardinali, *The mixed WKB-full-wave approach and its application to lower hybrid wave propagation and absorption*. Presented at the 7th International West Lake Symposium on Magnetic Fusion Research, Institute for Fusion Theory and Simulation, Zhejiang University, Hangzhou, China, May 6 - 10 (2013).
- 82.** Z. Qiu, L. Chen and **F. Zonca**, *Spontaneous Excitation of Geodesic Acoustic Mode by Toroidal Alfvén Eigenmodes*. Presented at the 7th International West Lake Symposium on Magnetic Fusion Research, Institute for Fusion Theory and Simulation, Zhejiang University, Hangzhou, China, May 6 - 10 (2013).
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- 87.** Z. Qiu, L. Chen and **F. Zonca**, *Spontaneous Excitation of Geodesic Acoustic Mode by Toroidal Alfvén Eigenmode*. Paper PIII-06. Presented at the International Sherwood Fusion Theory Conference, Santa Fe, New Mexico, April 15 - 17 (2013).
- 88.** X. Wang, S. Briguglio, G. Fogaccia, G. Vlad, **F. Zonca** and L. Chen, *Non-uniformity effects on nonlinear wave and energetic particles interaction*. Presented at the U.S. - E.U. Joint Transport Task Force Workshop Santa Rosa, California - April 9 - 12 (2013).

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- 90. Z.X. Lu, F. Zonca** and A. Cardinali, *Theoretical and numerical studies of wave-packet propagation in tokamak plasmas*. Bulletin of the American Physical Society, 53, No. 14, 47, (2012). <http://meetings.aps.org/Meeting/DPP12/paper/BP8.00053>. Presented at the 54th Annual Meeting of the APS Division of Plasma Physics, Providence, Rhode Island, October 29 - November 2, (2012).
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- 92. S. Briguglio, G. Vlad, X. Wang and F. Zonca**, *Report on benchmark for nonlinear code*. Presented at the 8th Meeting of the ITPA Energetic Particle Physics Topical Group (Held in Conjunction with the 19th meeting of the ITPA MHD Stability Topical Group), Toki, Japan, March 5 - 9, (2012).
- 93. L. Chen and F. Zonca**, *Alfvén Waves and their Excitation by Energetic Particles in Fusion and Space Plasmas*. Paper X6.00001. Presented at the APS April Meeting 2012 (Held in Conjunction with the Sherwood Fusion Theory Conference) Atlanta, GA, USA, March 31 - April 3, (2012).
- 94. F. Zonca** and L. Chen, *Energetic particle and Alfvén wave physics in fusion plasmas: a brief review*. Presented at the Symposium on Plasma Theory: A Celebration of Professor Liu Chen's 40 Years of Scientific Accomplishments, University of California, Irvine, USA, Jan. 12 - 13, (2012).
- 95. Invited Presentation: F. Zonca**, *Linear and nonlinear theory of Alfvén modes in toroidal plasmas*. Presented at the Winter School on Nonlinear Energetic Particle Physics in Burning Plasmas, University of California, Irvine, USA, Jan. 9 - 10, (2012).
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- 97. G. Vlad, S. Briguglio, G. Fogaccia and F. Zonca**, *Hybrid MHD-Gyrokinetic codes: extended models, new implementations and forthcoming applications*. Paper P2.13. Presented at the 12th IAEA Technical Meeting on Energetic Particles in Magnetic Confinement Systems, Austin, Texas, USA, Sep. 7 - 10, (2011). <http://www-naweb.iaea.org/napc/physics/meetings/TM40762.html>
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- 99. Zwinglio Guimarães-Filho, S. Benkadda, N. Dubuit, J. Decker, D. Elbeze, X. Garbet, P. Maget, A. Merle, R. Sabot, J.-L. Ségui and Tore Supra team, P. Buratti, A. Botrugno, G. Calabrò, G. Pucella, F. Zonca, A.A. Tuccillo and FTU team**, *Electron fishbones in Tore Supra and FTU tokamaks*. Paper O14. Presented at the 12th IAEA Technical Meeting on Energetic Particles in Magnetic Confinement Systems, Austin, Texas, USA, Sep. 7 - 10, (2011). <http://www-naweb.iaea.org/napc/physics/meetings/TM40762.html>

- 100.** *Invited Presentation:* **F. Zonca** and L. Chen, *Recent progress and future prospects in energetic particle physics in toroidal plasmas*. Presented at the 20th International Toki Conference (ITC-20) on The Next Twenty Years in Plasma and Fusion Science, Ceratopia Toki, Toki-City, Gifu, Japan, Dec. 7 - 10, (2010).
- 101.** A. Bierwage, C. Di Troia, S. Briguglio, G. Fogaccia, G. Vlad and **F. Zonca**, *Method for Loading Marker Particles for Arbitrary Distribution Functions and Application for Simulation of High-Energy Ion Dynamics in Tokamak Plasmas*. Presented at the 7th Supercomputing in Nuclear Application and 3rd Monte Carlo Joint International Conference, Tokyo, Japan, Oct. 17 - 21, (2010).
- 102.** *Invited Presentation:* **F. Zonca** and L. Chen, *Alfvénic turbulence in tokamaks: from micro- to meso-scale fluctuations*. Presented at the Workshop on Kinetic-scale turbulence in laboratory and space plasmas: empirical constraints, fundamental concepts and unsolved problems, Cambridge, UK, July 19 - 23, (2010).
- 103.** X. Wang, A. Bierwage, S. Briguglio, L. Chen, G. Fogaccia, G. Vlad, C. Di Troia, **F. Zonca**, H. Zhang and Z. Lin, *Hybrid MHD-particle simulations of discrete Kinetic BAE in tokamaks*. Presented at the 2010 International Sherwood Fusion Theory Conference, Seattle, WA, Apr. 19 - 21, (2010).
- 104.** A.V. Milovanov and **F. Zonca**, *Aspects of complex behavior in magnetically confined plasmas with intense energetic particle population*. Presented at the 8th Workshop on Complex Systems of Charged Particles and Their Interaction with Electromagnetic Radiation, Moscow, Russia, Apr. 14 - 16, (2010).
- 105.** C. Di Troia, S. Briguglio, G. Calabrò, A. Cardinali, F. Crisanti, G. Fogaccia, M. Marinucci, G. Vlad, and **F. Zonca**, *Fast ions transport and confinement in the FAST conceptual design*. Presented at the 2010 U.S. Transport Task Force Workshop, Annapolis, MD, USA, Apr. 13 - 16, (2010).
- 106.** **F. Zonca**, *The general fishbone-like dispersion relation: a unified description for shear Alfvén mode excitations and their consequences on MHD and micro-turbulence*. Presented at the 2.nd General Meeting of the Plasma Stability and Control Topical Group, Culham, UK, Mar. 17 - 19, (2010).
- 107.** **F. Zonca** and the FAST Team, *Complex behaviors in fusion plasmas: the role of FAST*. Presented at the Workshop on Complex system approaches to space and laboratory plasmas, Montemagno, Italy, Oct. 29 - 31, (2009)
- 108.** A. Cardinali, S. Briguglio, C. Di Troia, G. Fogaccia, M. Marinucci, G. Vlad and **F. Zonca**, *Minority ions acceleration by ICRH: a tool for investigating burning plasma physics*. Presented at the 13th European Fusion Theory Conference, Riga, Latvia, Oct. 12 - 15, (2009).
- 109.** G. Vlad, S. Briguglio, G. Fogaccia and **F. Zonca**, *Toward a New Hybrid MHD Gyrokinetic Code: Progresses and Perspectives*. Presented at the 11th IAEA Technical Meeting on Energetic Particles in Magnetic Confinement Systems, Kyiv, Ukraine, Sep. 21 - 23, (2009).
- 110.** S. Briguglio, G. Fogaccia, G. Vlad and **F. Zonca**, *Nonlinear TAE test case: results of HMGC simulation*. Presented at the 3rd Meeting of the ITPA Energetic Particle Physics Topical Group, Kiev, Ukraine, Kyiv, Ukraine, Sep. 24 - 25, (2009).
- 111.** **F. Zonca** and the FAST Team, *Complex behaviors in fusion plasmas: the role of FAST*. Presented at the Workshop on Nonlinear dynamics and structure formation in complex systems: challenges and open problems for modern physics, Frascati, Italy, Sep. 21 - 22, (2009).
- 112.** *Invited Presentation:* **F. Zonca**, *Relationship of low frequency shear Alfvén spectrum to MHD and microturbulence*. Presented at the Theory Festival: Rotation and Momentum Transport in Magnetized Plasmas, July 6 - 24, (2009). Aix en Provence, France.

- 113. F. Zonca**, *The general fishbone-like dispersion relation*. Presented at the Theory Festival: Rotation and Momentum Transport in Magnetized Plasmas, July 6 - 24, (2009). Aix en Provence, France.
- 114. F. Zonca**, on behalf of the FAST Physics Team, *The FAST Proposal*. Presented at the 36.th EPS Conference on Plasma Physics, Sofia, Bulgaria, June 29 - July 3, (2009).
- 115. L. Chen, Z. Guo and F. Zonca**, *Theoretical Studies of Coherent Nonlinear Drift Wave-Zonal Flow Interactions*. Presented at the 4th IAEA Technical Meeting on the Theory of Plasma Instabilities, Kyoto, Japan, May 18 - 20, (2009).
- 116. Z. Guo, L. Chen and F. Zonca**, *Radial Spreading of Drift Wave-Zonal Flow Turbulence via Soliton Formation*, paper K1.00040. Presented at the 2009 International Sherwood Fusion Theory Conference, Denver, Colorado, May 3 - 5, (2009).
- 117. A. Bierwage, D.A. Spong, SCIDAC GSEP Team, ENEA/FRASCATI Plasma Theory Team**, *Nonlinear Simulation of Alfvén Eigenmodes driven by Energetic Particles: Comparison between HMGC and TAEFL Codes*, paper K1.00066. Presented at the 2009 International Sherwood Fusion Theory Conference, Denver, Colorado, May 3 - 5, (2009).
- 118. Z. Guo, L. Chen and F. Zonca**, *Radial Spreading of Drift Wave-Zonal Flow Turbulence via Soliton Formation*. Presented at the Joint US-EU TTF Workshop, San Diego, CA, April 27 - May 1, (2009).
- 119. S. Briguglio, G. Fogaccia, G. Vlad and F. Zonca**, *Nonlinear benchmark for TAEs: HMGC results*. Presented at the ITPA Energetic Particles and MHD Task Groups Joint Meeting, Daejeon, South Korea, April 21 - 24, (2009).
- 120. C. Di Troia, S. Briguglio, G. Calabrò, A. Cardinali, F. Crisanti, G. Fogaccia, M. Marinucci, G. Vlad and F. Zonca**, *ICRH minority heating in FAST: a tool for investigating burning plasma physics*. Presented at the 11th Plasma Meeting on Reconnection and Turbulence in Magnetically Confined Plasmas, Turin, Italy, April 15 - 17, (2009).
- 121. A. Biancalani, L. Chen, F. Pegoraro, F. Zonca, S.V. Annibaldi, A. Botrugno, P. Buratti and P. Smeulders**, *Shear Alfvén wave continuous spectrum in the presence of a magnetic island*. Presented at the 11th Plasma Meeting on Reconnection and Turbulence in Magnetically Confined Plasmas, Turin, Italy, April 15 - 17, (2009).
- 122. A. Bierwage, S. Briguglio, G. Fogaccia, G. Vlad, F. Zonca, M.-S. Chu, M. Van Zeeland, L. Chen, W. Heidbrink and Z. Lin**, *Simulation of DIII-D shot 132707 using Hybrid MHD-Gyrokinetic Code (HMGC)*, Bulletin of the American Physical Society, **53**, No. 14, 75, (2008). <http://meetings.aps.org/Meeting/DPP08/paper/GP6.00102>. Presented at the 50th Annual Meeting of the APS Division of Plasma Physics, Dallas, TX, November 17 - 21, (2008).
- 123. A. Cardinali and F. Zonca**, *Hamiltonian Perturbation Theory in the Study of the Lower Hybrid Wave Propagation in Ionized Gas*, paper 1B07. Presented at the 2008 International Sherwood Fusion Theory Conference, Boulder, CO, March 30 - April 3, (2008).
- 124. Invited Presentation: F. Zonca**, *Structures of the low frequency Alfvén continuous spectrum and their consequences on MHD and micro-turbulence*. Presented at the Tore Supra Workshop, Cadarache, France, 16 - 18 January, (2008).
- 125. F. Zonca**, *Physics challenges and open issues of burning plasma physics in ITER*. Presented at the 15th European Fusion Physics Workshop, Prague, Czech Republic, 3 - 5 December, (2007).

126. L. Chen and **F. Zonca**, *Radial structures and nonlinear excitation of Geodesic Acoustic Modes*, Bulletin of the American Physical Society, **52**, No. 16, 201, (2007). <http://meetings.aps.org/Meeting/DPP07> paper NP8.00013. Presented at the 49th Annual Meeting of the APS Division of Plasma Physics, Orlando, FL, November 12 - 16, (2007).

127. **F. Zonca** and L. Chen, *A non-linear 4-wave resonant model for non-perturbative fast ion interactions with Alfvénic modes in burning plasmas*, Bulletin of the American Physical Society, **52**, No. 16, 115, (2007). <http://meetings.aps.org/Meeting/DPP07> paper GP8.00033. Presented at the 49th Annual Meeting of the APS Division of Plasma Physics, Orlando, FL, November 12 - 16, (2007).

128. *Invited Presentation:* **F. Zonca**, S. Briguglio, L. Chen, G. Fogaccia, T.S. Hahm, A.V. Milovanov and G. Vlad, *Physics of Burning Plasmas in Toroidal Magnetic Field Devices*. Presented at the 12th European Fusion Theory Conference, Madrid, Spain, September 24 - 27, (2007).

129. A. Cardinali, L. Morini, C. Castaldo and **F. Zonca**, *Analysis of the Validity of the Asymptotic Techniques in the Lower Hybrid Wave Equation Solution for Reactor Applications*, paper 2C01. Presented at the 2007 International Sherwood Fusion Theory Conference, Annapolis, MD, April 23 - 25, (2007).

130. L. Chen and **F. Zonca**, *Radial structures and nonlinear excitation of Geodesic Acoustic Modes*, paper 1E46. Presented at the 2007 International Sherwood Fusion Theory Conference, Annapolis, MD, April 23 - 25, (2007). Presented also at the 12th US-EU Transport Taskforce Workshop, San Diego, CA, April 17 - 20, (2007).

131. *Invited Presentation:* **F. Zonca**, S. Briguglio, L. Chen, G. Fogaccia, A.V. Milovanov and G. Vlad, *Alfvén mode excitations and resonant wave-particle interactions in burning plasmas: examples of nonlinear dynamics in complex systems*. Presented at the Workshop on Complexity in Plasma and Geospace Systems, Geilo, Norway, March 4 - 9, (2007).

132. S. Briguglio, G. Fogaccia, G. Vlad, **F. Zonca**, K. Shinohara, M. Ishikawa, and M. Takechi, *Particle simulations of bursting Alfvén modes in JT-60U*. Presented at the 48th Annual Meeting of the APS Division of Plasma Physics, October 30 - November 3, 2006, Philadelphia, Pennsylvania.

133. *Invited Presentation:* **F. Zonca**, S. Briguglio, L. Chen, G. Fogaccia and G. Vlad, *Energetic particle physics in burning plasmas*. Presented at the Workshop on ITER Simulation Beijing, May 15-19, 2006.

134. **F. Zonca** and L. Chen, *Resonant and non-resonant particle dynamics in Alfvén Mode excitations*, Bulletin of the American Physical Society, **50**, No. 8, 128, (2005). <http://meetings.aps.org/Meeting/DPP05> paper FP1.00071. Presented at the 47th Annual Meeting of the APS Division of Plasma Physics, October 24-28, 2005, Denver, Colorado.

135. R.B. White, L. Chen and **F. Zonca**, *Drift wave and Zonal flow Interaction*, Bulletin of the American Physical Society, **50**, No. 8, 301, (2005). <http://meetings.aps.org/Meeting/DPP05> paper QP1.00181. Presented at the 47th Annual Meeting of the APS Division of Plasma Physics, October 24-28, 2005, Denver, Colorado.

136. **F. Zonca**, *Multiple space-time structures of low-frequency fluctuations in toroidal systems*. Presented at the 4th Workshop on Nonlinear Plasma Sciences and International School on Plasma Turbulence and Transport, Hangzhou, China, August 30 - September 3 (2005).

137. **F. Zonca**, *Fast ion induced collective effects and resonant transport in burning plasmas*. Presented at the 4th Workshop on Nonlinear Plasma Sciences and International School on Plasma Turbulence and Transport, Hangzhou, China, August 30 - September 3 (2005).

138. F. Zonca, *MHD instabilities and fast particles*. Presented at the Theory Festival: Turbulence overshoot and resonant structures in fusion and astrophysical plasmas. July 4-22, (2005). Aix en Provence, France.

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139. F. Zonca, *Particle acceleration and resonant transport*. Presented at the Theory Festival: Turbulence overshoot and resonant structures in fusion and astrophysical plasmas. July 4-22, (2005). Aix en Provence, France.

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140. L. Chen , Z. Lin and **F. Zonca**, *Nonlinear Toroidal Mode Coupling: a New Paradigm for Drift Wave Turbulence in Toroidal Plasmas*, paper P2-43. Presented at the 2005 International Sherwood Fusion Theory Conference, Stateline, Nevada. April 11-13, (2005).

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141. A. Cardinali, C. Castaldo and **F. Zonca**, *Numerical study of the wave equation in the Lower Hybrid frequency in a toroidal plasma*, paper P1-44. Presented at the 2005 International Sherwood Fusion Theory Conference, Stateline, Nevada. April 11-13, (2005).

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142. F. Zonca and L. Chen, *ITG Turbulent Transport and Collisionless Damping of Zonal Flows*. Presented at the 2004 Transport Task Force Meeting, Salt Lake City, Utah. April 29 - May 2, (2004).

143. L. Chen and **F. Zonca**, *Kinetic Stability Analysis and Collisionless Damping of Zonal Flows*, paper 2C03. Presented at the 2004 International Sherwood Fusion Theory Conference, Missoula, Montana. April 26-28, (2004).

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144. A. Cardinali and **F. Zonca**, *Analytical and numerical study of the lower-hybrid-relevant wave equation in a toroidal plasma*, paper 1E13. Presented at the 2004 International Sherwood Theory Conference, Missoula, Montana, April 26-28, (2004).

145. Invited Presentation: F. Zonca, R.B. White and L. Chen, *Non-linear Paradigm for Drift Wave - Zonal Flow interplay: coherence, chaos and turbulence*, Bulletin of the American Physical Society, **48**, No. 7, 330, (2003). Presented at the 45th Annual Meeting of the APS Division of Plasma Physics, Albuquerque, New Mexico. October 27-31, (2003).

146. G. Vlad, S. Briguglio, G. Fogaccia and **F. Zonca**, *Alpha Particle Transport Induced by Alfvénic Instabilities in Proposed Burning Plasma Scenarios*, Bulletin of the American Physical Society, **48**, No. 7, 54, (2003). Presented at the 45th Annual Meeting of the APS Division of Plasma Physics, Albuquerque, New Mexico. October 27-31, (2003).

147. G. Vlad, S. Briguglio, G. Fogaccia and **F. Zonca**, *Alpha particle transport induced by Alfvénic instabilities in proposed burning plasma scenarios*. Presented at the 8th IAEA Technical Meeting on Energetic Particles in Magnetic Confinement Systems, 6-8 October 2003, San Diego, California.

148. F. Zonca, S. Briguglio, G. Fogaccia and G. Vlad, *Transition from weak to strong fusion product transport in burning plasmas*. Presented at the 8th IAEA Technical Meeting on Energetic Particles in Magnetic Confinement Systems, 6-8 October 2003, San Diego, California.

149. Invited Presentation: L. Chen, R.B. White and **F. Zonca**, *Zonal flow dynamics and size-scaling of anomalous transport*. Paper 2D02. Presented at the 2003 International Sherwood Theory Conference, Corpus Christi, Texas, April 28-30, (2003).

150. F. Zonca, A. Cardinali, P. Buratti, V. Pericoli, F. Romanelli, P. Smeulders, J.Q. Dong, A. Wang, *Collective Effects and Resonant excitation of electron-fishbones in FTU and HL-1M*. Presented at the 8th Easter Plasma Meeting on Reconnection and Turbulence in magnetically confined plasmas, Turin, April 23-25, (2003).

151. S. Briguglio, G. Fogaccia, G. Vlad and **F. Zonca**, *Collective effects and energetic ion transport in reversed shear tokamaks*, Bulletin of the American Physical Society, **47**, No. 9, 263, (2002). Presented at the 44th Annual Meeting of the APS Division of Plasma Physics, Orlando (FL), USA, Nov. 11-15, (2002).

152. S. Briguglio, G. Vlad, G. Fogaccia, **F. Zonca** and B. Di Martino and *PIC simulations of shear Alfvén modes in tokamaks on hierarchical distributed-shared memory architectures*, Bulletin of the American Physical Society, **47**, No. 5, 32, (2002). Presented at the Conference on Computational Physics, August 25-28, 2002, San Diego, California, USA.

153. *Invited Presentation:* **F. Zonca** and L. Chen, *Nonlinear Dynamics of Drift-Alfvén Turbulence in Tokamaks*, Presented at the 7.th Easter Meeting, Turin, Italy, Apr. 3-5, (2002).

154. **F. Zonca**, S. Briguglio, L. Chen, G. Fogaccia and G. Vlad, *Mode structures and stability of Energetic Particle Modes near a q-minimum surface in tokamaks*, Presented at the IAEA Technical Meeting on Theory of Plasma Instabilities, Kloster Seeon, Germany, Apr. 9-12, (2002).

155. *Invited Presentation:* **F. Zonca** and L. Chen, *Zonal flow dynamics of e.m. drift-Alfvén waves and related mode structures*, Presented at the IAEA Technical Meeting on Theory of Plasma Instabilities, Kloster Seeon, Germany, Apr. 9-12, (2002).

156. G. Vlad, S. Briguglio, G. Fogaccia and **F. Zonca**, *Dinamica nonlineare di modi di shear Alfvén e confinamento di ioni energetici in tokamak operanti in regimi con confinamento migliorato*, Presented at the III Convegno Nazionale su "La Fisica del Plasma in Italia", L'Aquila, 20-22 Maggio 2002.

157. *Invited Presentation:* **F. Zonca**, L. Chen, S. Briguglio and G. Vlad, *Role of resonant vs non-resonant wave-particle interactions in electromagnetic turbulence*, Presented at the Theory Festival: Self Organization and Transport in Electromagnetic Turbulence. July 2-20, (2001). Aix en Provence, France.

158. S. Briguglio, G. Vlad, **F. Zonca** and D. Testa, *Particle-in-cell investigation of the nonlinear saturation of shear Alfvén modes in hollow-q-profile tokamaks*, Presented at the 7th IAEA Technical Committee Meeting on Energetic Particles in Magnetic Confinement Systems, October 8 - 11, 2001, Göteborg, Sweden.

159. G. Vlad, S. Briguglio, **F. Zonca**, G. Fogaccia, and B. Di Martino, *Particle-in-cell investigation of the nonlinear saturation of shear Alfvén modes in hollow-q-profile tokamaks*, Bulletin American Physical Society **46**, No. 5, (2001). Presented at the Annual Meeting of the Division of Computational Physics, June 25 - 28, 2001, Cambridge, Massachusetts, USA.

160. G. Vlad, S. Briguglio and **F. Zonca**, *Hybrid MHD-gyrokinetic simulations of the nonlinear saturation of energetic particle modes in tokamaks*, Bulletin American Physical Society **46**, No. 8, 113, (2001). Presented at the 43.th Annual Meeting of the Division of Plasma Physics, October 29 - November 2, 2001 Long Beach, California, USA.

161. D. Testa, A. Fasoli, **F. Zonca**, T. Bolzonella, D. Borba, S. Briguglio, C.D. Challis, L. Chen, S. Dettrick, A. Gondhalekar, N. Hawkes, A. Jaun, J. Mailloux, F. Milani, S. Sharapov, G. Vlad, P. de Vries, and contributors to the EFDA-JET work programme, *Experimental studies of Alfvén modes stability and instability regimes on the JET tokamak*, Bulletin American Physical Society **46**, No. 8, 153-4, (2001). Presented at the 43.th Annual Meeting of the Division of Plasma Physics, October 29 - November 2, 2001 Long Beach, California, USA.

162. **F. Zonca**, S. Briguglio, L. Chen and G. Vlad, *Zonal flow excitation by nonlinear EPM dynamics*, paper 2D35, 2001 Sherwood International Fusion Theory Conference, Santa Fe, NM, USA.

163. **F. Zonca** and L. Chen, *Nonlinear dynamics of Energetic Particle Modes in the presence of self-consistent zonal fields*, Bulletin of American Physical Society, **45**, 196 (2000); presented at the XLII Annual Meeting of the American Physical Society, Division of Plasma Physics, Québec City, CANADA, Oct. 22-27, (2000).

- 164.** *Invited Presentation:* **F.Zonca** and L. Chen, *Effect of zonal fields on electromagnetic drift turbulences*; Presented at the *Secondo Convegno Nazionale su "La Fisica del Plasma in Italia"*, Cetraro (I) - September 20 - 23, (2000).
- 165.** *Invited Presentation:* **F.Zonca**, S. Briguglio, L. Chen, G. Fogaccia and G. Vlad, *Theoretical aspects of collective mode excitations by energetic ions in tokamaks*; Presented at the 6.th Easter Plasma Meeting, Villa Gualino, Torino, Italy, April 17-19, (2000).
- 166.** **F.Zonca** and L. Chen, *Destabilization of Energetic Particle Modes by Localized Particle Sources*, Bulletin of American Physical Society, **44**, No. 7, 84 (1999); presented at the XLI Annual Meeting of the American Physical Society, Division of Plasma Physics, Seattle, Washington, USA.
- 167.** *Invited Presentation:* **F.Zonca**, *Existence of ion temperature gradient driven shear Alfvén instabilities in tokamaks*, Bulletin of American Physical Society, **43**, 1921 (1998); presented at the XL Annual Meeting of the American Physical Society, Division of Plasma Physics, New Orleans, Louisiana, USA.
- 168.** *Invited Presentation:* **F. Zonca**, *Eccitazione di onde di Alfvén in plasmi di laboratorio (Alfvén Wave excitation in laboratory plasmas)*, *Relazione su invito*, LXXXIV Congresso Nazionale della Società Italiana di Fisica, Salerno, p. 124, (1998).
- 169.** *Invited Presentation:* **F. Zonca**, L.Chen, J.Q. Dong and R.A. Santoro, *Existence of ion temperature gradient driven shear Alfvén instabilities in tokamaks*, paper 3B01, 1998 International Sherwood Fusion Theory Conference, Atlanta, Georgia, USA.
- 170.** **F.Zonca**, L. Chen and R.A. Santoro *Existence of discrete modes in an unstable shear Alfvén continuous spectrum*, Bulletin of American Physical Society, **42**, 1931 (1997); presented at the XXXIX Annual Meeting of the American Physical Society, Division of Plasma Physics, Pittsburgh, Pennsylvania, USA.
- 171.** L.Chen, R.A. Santoro and **F. Zonca**, *On finite- η_i Shear Alfvén Instabilities in Toroidal Plasmas*, paper 3C23, 1997 International Sherwood Fusion Theory Conference, Madison, Wisconsin, USA.
- 172.** S. Briguglio, G. Vlad and **F.Zonca**, *Saturation of Alfvén modes in tokamaks*, Bulletin of American Physical Society, **41**, 1357 (1996); presented at the XXXVIII Annual Meeting of the American Physical Society, Division of Plasma Physics, Denver, Colorado, USA.
- 173.** S. Briguglio, F. Romanelli, G. Vlad and **F. Zonca**, *Dinamica lineare e non-lineare dei modi di Alfvén guidati da particelle energetiche (Linear and non-linear dynamics of Alfvén Modes driven by energetic particles)*, LXXXII Congresso Nazionale della Società Italiana di Fisica, Verona, p. 154, (1996).
- 174.** G. Vlad, S. Briguglio, F. Romanelli and **F.Zonca**, *Linear and nonlinear dynamics of Alfvén modes driven by energetic particles*, paper 2C15, 1996 International Sherwood Fusion Theory Conference, Philadelphia, PA, USA.
- 175.** G. Vlad, **F. Zonca** and F. Romanelli, *High-n Stability of Alpha Particle Driven Alfvén Eigenmodes*, presented at the 4th IAEA Technical Committee Meeting on Alpha Particles in Fusion Research, Princeton, NJ, USA, (1995). Published in: Nuclear Fusion, **35**, 1651-9, (1995).
- 176.** G. Vlad, S. Briguglio, F. Romanelli and **F. Zonca**, *Radial structure and non-linear saturation of Alfvén eigenmodes driven by energetic particles*, Bulletin of American Physical Society, **40**, 1719 (1995); presented at the XXXVII Annual Meeting of the American Physical Society, Division of Plasma Physics, Louisville, KY, USA.
- 177.** S. Briguglio, C. Kar, F. Romanelli, G. Vlad and **F. Zonca** *Linear and Nonlinear Evolution of Alpha-particle Driven Gap Modes*, presented at the 22nd EPS Conference on Controlled Fusion and Plasma Physics, Bournemouth, UK, 1995. Published in: Plasma Physics and Controlled Fusion, **37**, suppl. no.11A, A279-90, (1995).

- 178.** **F. Zonca** and L. Chen, *Two-dimensional radial structures of Alfvén Modes excited by energetic particles in tokamaks*, paper 1C28, 1995 International Sherwood Fusion Theory Conference, Incline Village, Nevada, USA.
- 179.** L. Chen and **F. Zonca**, *Theory of shear Alfvén waves in toroidal plasmas*, presented at the International Workshop on Alfvén Waves, Rio de Janeiro, Brazil, 1994. Published in: *Physica Scripta*, **T60**, 81-90, (1995).
- 180.** *Invited Presentation:* **F. Zonca**, *Modi di shear Alfvén destabilizzati da particelle energetiche con orbite finite (Shear Alfvén modes excited by energetic particles with finite orbit width)*, *Relazione su invito*, LXXX Congresso Nazionale della Società Italiana di Fisica, Lecce, p. 99, (1994).
- 181.** G. Vlad, C. Kar, **F.Zonca** and F. Romanelli, *Dinamica non-lineare dei modi di Alfvén nei tokamaks (Non-linear dynamics of Alfvén modes in tokamaks)*, LXXX Congresso Nazionale della Società Italiana di Fisica, Lecce, p. 103, (1994).
- 182.** S. Briguglio, G. Vlad, **F.Zonca**, F. Romanelli and C. Kar, *Finite orbit effects on Kinetic Toroidal Alfvén Eigenmodes excited by energetic particles*, paper 1C45, 1994 International Sherwood Fusion Theory Conference, Dallas, Texas, USA.
- 183.** F. Romanelli and **F.Zonca**, *The radial structure of ion temperature gradient driven modes*, paper 1C44, 1994 International Sherwood Fusion Theory Conference, Dallas, Texas, USA.
- 184.** S. Briguglio, G. Vlad, C. Kar, F. Romanelli and **F.Zonca**, *Hybrid MHD-Gyrokinetic numerical simulation of Toroidal Alfvén Modes*, presented at the 5.th European Fusion Theory Conference, San Lorenzo de EL Escorial, Spain, (1993).
- 185.** **F.Zonca** and F. Romanelli, *The radial structure of electrostatic turbulence*, *Bulletin of American Physical Society*, **38**, 2075 (1993); presented at the XXXV Annual Meeting of the American Physical Society, Division of Plasma Physics, St. Louis, MO, USA.
- 186.** G. Vlad, S. Briguglio, C. Kar, **F.Zonca** and F. Romanelli, *Numerical simulations of Toroidal Alfvén Modes*, *Bulletin of American Physical Society*, **38**, 1944 (1993); presented at the XXXV Annual Meeting of the American Physical Society, Division of Plasma Physics, St. Louis, MO, USA.
- 187.** **F.Zonca** and L. Chen, *Stabilità lineare dei modi di Alfvén toroidali in equilibri con β finito (Linear stability of toroidal Alfvén modes in finite β equilibria)*, LXXIX Congresso Nazionale della Società Italiana di Fisica, Udine, p. ??, (1993).
- 188.** **F.Zonca** and A. Parmeggiani, *Approccio analitico allo studio di automodi bidimensionali in equilibri assisimmetrici (Analytic approach to bidimensional eigenmode studies in axisymmetric equilibria)*, LXXIX Congresso Nazionale della Società Italiana di Fisica, Udine, p. ??, (1993).
- 189.** S. Briguglio, G. Vlad, F. Romanelli, **F.Zonca** and C. Kar, *Progressi nella simulazione a particelle di instabilità globali nei plasmi confinati magneticamente (Progress in particle simulations of global instabilities in magnetically confined plasmas)*, LXXIX Congresso Nazionale della Società Italiana di Fisica, Udine, p. ??, (1993).
- 190.** *Topical Lecture:* **F.Zonca**, *Alfvénic instabilities driven by energetic alpha particles*, presented at the 20th EPS Conference on Controlled Fusion and Plasma Physics, Lisbon, Portugal, (1993). Published in: *Plasma Physics and Controlled Fusion*, **35**, suppl. no.12B, B307-17, (1993).
- 191.** G. Vlad, S. Briguglio, C. Kar, **F.Zonca** and F. Romanelli, *Stability of Toroidal Alfvén Eigenmodes using an initial value hybrid code*, paper 1C12, 1993 International Sherwood Fusion Theory Conference, Newport, Rhode Island, USA.
- 192.** L. Chen and **F.Zonca**, *Continuum damping of Toroidal Alfvén Eigenmodes in finite- β Tokamak Equilibria*, *Bulletin of American Physical Society*, **37**, 1436 (1992); presented at the XXXIV Annual Meeting of the American Physical Society, Division of Plasma Physics, Seattle, Washington, USA.

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