

HERVÉ GUILLARD

COMPLETE LIST OF PUBLICATIONS

Page Web personnelle : <http://www-sop.inria.fr/members/Herve.Guillard/>

5 Most cited publications (source : Google scholar 17/10/2013) :

[1] = 280, [10]=235, [13]= 136, [8]=117, [15]=117

International Journals

1. D. Cano, J. M. Monget, M. Albuissou, H. Guillard, N. Regas, and L. Wald. A method for the determination of the global solar radiation from meteorological satellite data. *Solar Energy*, 37(1) :31-39, 1986.
2. H. Guillard and R. Peyret. On the use of spectral methods for stiff problems. *Comput. Methods Appl. Mech. Eng.*, 66 :17-43, 1988.
3. H. Guillard G. Fernandez. Implicit schemes for subsonic combustion problems. In *Numerical Combustion*, volume 351 of *Lecture Notes in Physics*, pages 277-286. Springer, 1989.
4. U. Ehrenstein, H. Guillard, and R. Peyret. Flame computations with a Chebyshev multidomain method. *Int. J. Numerical Methods in Fluids*, 9 :499-515, 1989.
5. H. Guillard and J.A. Desideri. Iterative methods with spectral preconditioning for elliptic equations. *Comput. Methods Appl. Mech. Eng.*, 80 :305-312, 1990.
6. H. Guillard, J.M. Male, and R. Peyret. Adaptive spectral methods with applications to mixing layer computations. *J. Comput. Phys.*, 102 :114-127, 1992.
7. B. NKonga, G. Fernandez, H. Guillard, and B. Larroutourou. Numerical investigation of the tulip flame instability - comparisons with experimental results. *Combustion & Flame*, 87(1-6) :69, 1993.
8. B. NKonga and H. Guillard. Godunov type method on nonstructured meshes for three dimensional moving boundary problems. *Comput. Methods Appl. Mech. Eng.*, 113 :183-204, 1994.
9. R. Martin and H. Guillard. Second-order defect-correction scheme for unsteady problems. *Computer & Fluids.*, 25(1) :9-27, 1996.
10. H. Guillard and C. Viozat. On the behavior of upwind schemes in the low mach number limit. *Computer & Fluids.*, 28 :63-86, 1999.
11. D. Guezengar, J. Franchescatto, H. Guillard, and J.P Dussauge. Variations of the $k - \epsilon$ model for supersonic boundary layers. *European Journal of Mechanics B/Fluids*, 18 :713-738, 1999.
12. D. Guezengar, H. Guillard, and J.P Dussauge. Modelling dissipation equation in supersonic turbulent mixing layers with high-density gradients. *AIAA. Journal*, 38(9) :1650-1655, 2000.
13. H. Guillard and C. Farhat. On the significance of the geometric conservation law for flow computations on moving meshes. *Comput. Methods Appl. Mech. Eng.*, 190 :1467-1482, 2000.
14. H. Guillard and A. Murrone. On the behavior of upwind schemes in the low Mach number limit : II. Godunov type schemes. *Computers & Fluids*, 33(4) :655-675, 2004.
15. A. Murrone and H. Guillard. A five equation reduced model for compressible two-phase flow computations. *J. Comput. Phys.*, 202 No 2 :664-698, 2005.
16. S. Inaba, P. Barge, E. Daniel, and H. Guillard. A two-phase code for protoplanetary disks. *Astronomy & Astrophysics*, 431(1) :365-379, 2005.

17. H. Guillard. Recent developments in the computation of compressible low mach number flows. *Flow, Turbulence and Combustion*, 76 :363- 369, 2006.
18. H. Guillard and F. Duval. A Darcy law for the drift velocity in a two-phase model. *J. Comput. Phys.*, 224 :288-313, 2007.
19. H. Guillard, A. Janka, and P. Vanek. Analysis of an algebraic petrov-galerkin smoothed aggregation multigrid method. *Applied Numerical Mathematics*, 58 :1861-1874, 2008.
20. Guillard, H. and Murrone, A., Behavior of upwind scheme in the low Mach number limit. III : Pre-conditioned dissipation for a five equation two phase model. *Computers & Fluids*. 37(10) : 1209-1224, 2008.
21. Hervé Guillard. On the behavior of upwind schemes in the low Mach number limit. IV : P0 approximation on triangular and tetrahedral cells. *Computers & Fluids*, 38(10) :1969 - 1972, 2009.
22. A. Bonnement, T. Fajraoui, H. Guillard, M. Martin, A. Mouton, B. Nkonga and A. Sangam, Finite volume method in curvilinear coordinates for hyperbolic conservation laws. *ESAIM : Proc.* Volume 32, pp 163-176, 2011.
23. G. Chiavassa and H. Bufferand and G. Ciraolo and Ph. Ghendrih and H. Guillard and L. Isoardi and A. Paredes and F. Schwander and E. Serre and P. Tamain, Parallel expansion of density bursts, *Journal of Nuclear Materials*, 415 :1, Supplement, pp S613 - S616, 2011
24. Y. Mesri, H. Guillard and T. Coupez, Automatic coarsening of three dimensional anisotropic unstructured meshes for multigrid applications, *Applied Mathematics and Computation*, 218, 21, pp 10500 - 10519, 2012.
25. M. Bilanceri, F. Beux, I. Elmahi, H. Guillard, M-V. Salvetti, Linearized implicit time advancing and defect correction applied to sediment transport simulations, *Computers & Fluids*, 63 (30), pp 82-104, 2012.
26. M. Bilanceri, F. Beux, I. Elmahi, H. Guillard, M-V. Salvetti, Implicit Time Advancing Combined with Two Finite-Volume Methods in the Simulation of Morphodynamic Flows, *Mathematics and Computers in Simulation*, Available online 19 August 2013, doi = "http://dx.doi.org/10.1016/j.matcom.2013.07.002", url = "http://www.sciencedirect.com/science/article/pii/S0378475413002024"
27. J. Vides, E. Audit, H. Guillard and B. Nkonga, Divergence free MHD Simulations with the HERACLES code. accepted for publication in *ESAIM : Proc.*, 2013.
28. M. Bilanceri, L. Combe, H. Guillard, B. Nkonga and A. Sangam A 3D finite volume scheme for the simulation of edge plasma in Tokamaks. accepted for publication in *ESAIM : Proc.*, 2013.

National Journals

29. H. Guillard and B. Larrouturou. Méthodes numériques en combustion subsonique. *Images des Mathématiques*, pages 77-88, 1996.
30. H. Guillard, F. Duval, J-C. Latché, and R. Panescu. Numerical multiphase modeling of bubbly flows. *Annali dell'Universita di Ferrara*, 53 No 2 :243-253, 2007.

Books and book chapters

31. W. Gruter, H. Guillard, W. Moser, J.M. Monget, W. Palz, E. Raschke, R. E. Reinhardt, P. Schwarzmann, and L. Wald. Solar Radiation Data from satellite images, volume *Solar Radiation Data*. Vol 437 of *Solar Energy R & D in the European Community*. Series F. Reidel publishing co. edition, 1986.
32. H. Guillard. Mixed element-volume method in *Computational Fluid Dynamics*, volume VKI LS 1995-02 of von Karman Institute Lecture Series. von Karman Institute, 1995.

33. H. Guillard and R. Abgrall. Modélisation numérique des fluides compressibles, volume 5 of Series in Applied Mathematics. Gauthier- Villars-North Holland. edition, 2001

International conferences with selection panels

34. F. Benkhaldoun, A. Dervieux, G.Fernandez, H.Guillard, and B. Larrouturou. Some investigations of finite element solutions to stiff combustion problems : mesh adaption and implicit time-stepping. In *Mathematical Modeling in Combustion and Related Topics*, NATO ASI Series E, pages 393-409, Dordrecht, 1988. Martinus Nijhoff Publishers.
35. U. Ehrenstein, H.Guillard, and R. Peyret. Flame propagation computations with chebyshev methods. In *NUMERICAL AND APPLIED MATHEMATICS ; Proceedings of the 12th IMACS World Conference*, volume 1, pages 145-150. J.C Baltzer AG, Scientific Publishing Co, 1989.
36. H. Guillard G. Fernandez. An implicit method for the computation of reactive flows. In *NUMERICAL AND APPLIED MATHEMATICS Proceedings of the 12th IMACS World Conference*, volume 1. J.C Baltzer AG, Scientific Publishing Co, 1989.
37. G. Fernandez and H. Guillard. A numerical methods for the computation of low mach number reactive flows. In *Proceedings of the 6th Int. Conf. on Numerical methods in laminar and turbulent flows*, pages 815-825. Pineridge press, 1989.
38. H. Guillard, J. M Male, and R. Peyret. Numerical simulation of compressible mixing layers using adaptive spectral methods. In *Proceedings of the 4th International Symposium on CFD*, pages 449-454, University of California, Davis, 1991.
39. E. Morano, H. Guillard, A. Dervieux, M.P. Leclerc, and B. Stouffet. Faster relaxations for non-structured mg with voronoi coarsening. In *Computational Fluid Dynamics '92, Proceedings of the first European Computational Fluid Dynamics Conference*, volume 1, pages 69-74. Elsevier, 1992
40. N. Marco H. Guillard. Some aspects of multigrid methods on nonstructured meshes. In *Proceedings of the 7th Copper Mountain Conference on Multigrid Methods*, volume 3339, pages 347-362. NASA Conference Publication 3339, 1996. held in Copper mountain, Colorado, April 2-7, 1995.
41. S. Gauthier, H. Guillard, T. Lumpp, J-M. Malé, R. Peyret, and F. Renaud. A spectral domain decomposition technique with moving boundaries for viscous compressible flows. In *Computational Fluid Dynamics '96*, pages 839-844. John Wiley, 1996.
42. A. Dervieux, D. Guezengar, H. Guillard, and C. Viozat. Analysis of low mach simulations with compressible upwind codes. In *Proceedings of the 4th European Computational Fluid Dynamics Conference (ECCOMAS98)*, pages 96-103. John Wiley & Sons, 1998.
43. G. Carte, T. Coupez, H. Guillard, and S. Lanteri. Coarsening techniques in multigrid applications on unstructured meshes. In *European Congress on Computational Methods in Applied Sciences and Engineering*, Barcelona, 2000.
44. Gilles Carré, Gilles Carte, Hervé Guillard, and Stéphane Lanteri. Multigrid strategies for cfd problems on unstructured meshes. In *Multigrid Methods VI*, volume 14 of *Lecture Notes in Computational Science and Engineering*, pages 1-11. Springer, 2000. Invited Conference at European MG Conference.
45. Y. Mesri, H. Dignonnet, and H. Guillard. Mesh partitioning for parallel computational fluid dynamics applications on a grid. In *Finite Volumes for complex applications IV*, pages 631-642. Hermes Science Publisher, 2005.
46. H. Guillard and E. Daniel. A well balanced scheme for gas flows in protoplanetary nebulae. In *Finite Volumes for complex applications IV*, pages 355-364. Hermes Science Publisher, 2005.
47. H. Guillard and Mathieu Labois. Numerical modelling of compressible two-phase flows. In *European Conference on Computational Fluid Dynamics ECCOMAS CFD 2006*, 2006. available on line paper No 527 on proceedings.fyper.com/eccomas CFD2006.

48. H. Guillard. On the structure of shock waves in a two-phase isothermal system. In WEHSFF2007, Moscow, November 19-22, 2007.
49. M. Labois, H. Guillard, and M. Grandotto. A five-equation dissipative model for two-phase flows. In Finite Volumes for Complex Applications V, page 535. Wiley, 2008.
50. Bilanceri M. , Beux F. , Elmahi I. , Guillard H. , Salvetti M.V., Implicit simulations of shallow-water equations with mobile bed, Proceedings of V European Conference on Computational Fluid Dynamics, J.C. Pereira and A. Sequeira Eds., 2010.
51. A. Bonnement, Ph. Ghendrih, H. Guillard, B. Nkonga, R. Pasquetti, and F. Schwander. Radiative layers evolution and structure. Poster communication of the 19 th Plasmas Surface Interaction Conf., San Diego, May 24-28, 2010.
52. G. Chiavassa, H. Bufferand, G. Ciraolo and P. Ghendrih, H. Guillard, L. Isoardi, A. Paredes, F. Schwander, E.Serre, and P. Tamain. Parallel expansion of density burst. Poster communication of the 19 th Plasmas Surface Interaction Conf., San Diego, May 24-28, 2010.
53. Bilanceri M. , Beux F. , Elmahi I. , Guillard H. , Salvetti M.V., Comparison of explicit and Implicit time advancing in the simulation of a 2D sediment transport problem., Finite Volumes for Complex Applications VI Problems & Perspectives, Springer proceedings in Mathematics, vol 4, pp 135-145, 2011.
54. Bilanceri M. , Beux F. , Elmahi I. , Guillard H. , Salvetti M.V., A Comparison of two Finite Volume methods for Implicit Time Advancing in the Simulation of a 2D Sediment Transport Problem, Proceedings of the 4th International Conference on Approximation methods and Numerical Modelling in Environment and natural ressources, MAMERN'11, B. Amaziane, D. Barrera,H. Mraoui,M.L.Rodriguez, D. Sbibih, Eds, EUG Editions, p 365, 2011.
55. H. Guillard and M. Bilanceri and P. Cinat and I. Elmahi and M-V. Salvetti, Implicit time advancing applied to shallow water problems coupled with different models of sediment transport, Proceedings of ECCOMAS 2012, J. Eberhardsteiner et al Eds, 2012
56. C. Le Touze and A. Murrone and E. Montreuil and H. Guillard, Eulerian numerical methods on unstructured meshes for the simulation of sprays within liquid rocket engines, Proceedings of ECCOMAS 2012", J. Eberhardsteiner et al (Eds),2012
57. Ph. Ghendrih, T. Auphan, B. Bensiali, M. Bilanceri, K. Bodi, J. Bucalossi, H. Bufferand, G. Chiavassa, G. Ciraolo,R. Futtersack, H. Guillard, C. Guillemaut, Y. Marandet, A. Mentrelli, D. Moulton, A. Paredes, R. Pasquetti, E. Serre, F. Schwander and P. Tamain, Impact on Divertor Operation of the Pattern of Edge and SOL Flows Induced by Particle Sources and Sinks, Communication TH/P4-26, 24th IAEA Fusion Energy Conference (FEC 2012), San Diego, USA, 8-13 October 2012.

National conferences with selection panels

58. H. Guillard and A. Murrone. Behavior of godunov-type schemes in the low Mach number limit. In Trends in Numerical and Physical Modeling for Industrial Multiphase Flows, Cargese, France, 2001.
59. H. Guillard. Low mach number flows : Asymptotics and numerics. In Ecole d'été du Groupement Universitaire de Thermique, Porquerolles, June 24-28, 2002
60. Angelo Murrone and Hervé Guillard. Un modèle réduit à cinq équations pour les problèmes d'écoulements diphasiques compressibles. In Proceedings of CFM2003, 16ème Congrès Français de Mécanique, Nice, France, 2003.
61. Guillaume Perigaud, Richard Saurel, and Hervé Guillard. Simulation numérique d'instabilités d'interface multidimensionnelles, etude de modèles diphasiques dans la limite des faibles nombres de mach. In Proceedings of CFM2003, 16ème Congrès Français de Mécanique, Nice, France, 2003.

62. S. Inaba, P. Barge, E. Daniel, and H. Guillard. Two-phase disk simulations. In J.M. Hameury Casoli, T. Contini and L. Pagani, editors, SF2A-2005 : Semaine de l'Astrophysique Francaise, page 767. EdP-Sciences, 2005

Technical Reports

63. A. Habbal, A. Dervieux, H. Guillard, and B. Larroturou. Explicit calculation of reactive flows with an upwind finite element hydrodynamical code. Technical Report 690, INRIA, 1987.
64. H. Guillard, N.Maman, and B. Larroturou. Etude numérique des instabilités cellulaires d'un front de flamme par une méthode pseudospectrale. Technical Report 721, INRIA, 1987.
65. J-A. Desideri and H. Guillard. Methodes numeriques pour la combustion supersonique : bilan et perspectives. Technical Report 2002, INRIA, 1993.
66. B. NKonga and H. Guillard. Godunov type method on nonstructured meshes for three dimensional moving boundary problems. Technical Report 1883, INRIA, 1993.
67. H. Guillard. Convergence analysis of a multi-level relaxation method. Technical Report 1884, INRIA, 1993.
68. H. Guillard. Node-nested multigrid method with delaunay coarsening. Technical Report 1898, INRIA, 1993.
69. T. Lumpp and H. Guillard. Numerical simulations of compressible mixing layers. Technical Report 2217, INRIA, 1994.
70. B. Duval and H. Guillard. Gestion de maillages triangulaires déformables. Technical Report 2272, INRIA, 1994.
71. R. Martin and H. Guillard. A second order defect correction scheme for unsteady problems. Technical Report 2447, INRIA, 1994.
72. Hervé Guillard and Petr Vanek. An aggregation multigrid solver for convection-diffusion problems on unstructured meshes. Technical Report UCD-CCM-130, University of Colorado in Denver, 1, 1998.
73. A. Janka, H. Guillard, and P. Vanek. Convergence of algebraic multigrid based on smoothed aggregation II : Extension to a Petrov Galerkin method. Technical Report 3683, INRIA, 1999.
74. Dominique Guézengar, Hervé Guillard, and Jean-Paul Dussauge. Modelling the dissipation equation in supersonic turbulent mixing layers with high density gradients. Technical Report 3761, INRIA, 1999.
75. H. Guillard and A. Murrone. On the behavior of upwind schemes in the low Mach number limit : II. Godunov type schemes. Research Report 4189, INRIA, 2001.
76. H. Guillard and A. Murrone. A five equation reduced model for compressible two-phase flow computations. Research Report 4778, INRIA, 2003.
77. H. Guillard and A. Murrone. On the behavior of upwind schemes in the low Mach number limit : III. Preconditioned dissipation for a two-phase model. Research Report 5342, INRIA, 2004.
78. V Mariotti, S. Camarri, M.-V. Salvetti, B. Koobus, A. Dervieux, H. Guillard, and S. Wornom. Numerical simulation of a jet in crossflow application to grid computing. Research Report 5638, INRIA, 2005.
79. S. Wornom, B. Koobus, H. Guillard, A. Murrone, and A. Dervieux. Seven-equation, two-phase flow three-dimensional calculations using a mixed-element-volume method. Research Report 5560, INRIA, 2005.
80. Hervé Guillard and Vincent Perrier. Shock structure in a two-phase isothermal Euler model. Research Report 6274, INRIA, 08 2007.

81. Youssef Mesri and Hervé Guillard. An automatic mesh coarsening technique for three dimensional anisotropic meshes. Research Report 6344, INRIA, 11 2007.

Contract Reports

82. H. Guillard and B. Larrouturou. Etude Mathématique et Simulation Numérique des fronts de flamme. Contract Report Contrat DRET 87-209, INRIA, 1987. 7
83. H. Guillard. Développement et tests de méthodes multigrilles pour l'accélération de la convergence des méthodes de résolution des équations de Navier-Stokes sur des maillages non-structures. Contract Report Contrat Dassault Aviation 1 97 E 883 00 41606 012, INRIA, 1997.
84. H. Guillard. Développement et tests de méthodes multigrilles pour l'accélération de la convergence des méthodes de résolution des équations de Navier-Stokes sur des maillages non-structures. Contract Report CONTRAT Dassault Aviation 1 02 E 0359 00 41637 012, INRIA, 2003.
85. H. Guillard. Mecagrid. Contract Report Rapport final de ACI-GRID 2002 : MecaGrid, INRIA, 2005.
86. Y. Mesri and H. Guillard. Méthode de déaffinement anisotrope pour la construction d'une hiérarchie de maillages d'une géométrie 3d. Contract Report : Contrat Smash-Dassault 838, INRIA, 2007.
87. H. Guillard, Marie Curie Actions, Project No IRSES230833 CoAdvise, Irses Mid-term Report, June 30, 2011.
88. H. Guillard, Marie Curie Actions, Project No IRSES230833 CoAdvise, Irses Periodic Report, 2012.
89. H. Guillard, Marie Curie Actions, Project No IRSES230833 CoAdvise, Irses Final Report, 2012.

Other publications

90. Lucien Wald ; Hervé Guillard ; Hervé Demarcq, The dynamics of the Mediterranean Sea from space : some techniques and their applications, NATO Research Workshop "Atmospheric and Oceanic Circulation in the Mediterranean Sea", Sep 1983, La Spezia, Italy.
91. Hervé Guillard ; Jean-Marie Monget ; Lucien Wald, Satellite solar meteorology : operational use of the Meteosat system to compute solar irradiance EARSel/ESA Symposium on European Remote Sensing Opportunities, Mar 1985, Strasbourg, France.
92. A. Bonnement, Ph. Ghendrih, H. Guillard, B. Nkonga, R. Pasquetti, F. Schwander, Radiative layers evolution and structure, Poster communication, 19 th Plasmas Surface Interaction Conf., San Diego, May 24-28, 2010.
93. P. Tamain, N. Fedorczak, Ph. Ghendrih, J. Gunn, M. Koan, Y. Sarazin, H. Bufferand, G. Chiavassa, G. Ciraolo, L. Isoardi, A. Paredes, F. Schwander, E. Serre, H. Guillard, A. Bonnement, R. Pasquetti, Towards a Comprehensive Approach of Edge and SOL Transport Issues : from Experimental Results to Global Simulations 23rd IAEA Fusion Energy Conference, Daejeon, Korea Rep., October 11-16 2010.
94. A. Bonnement, H. Guillard, B. Nkonga, R. Pasquetti, Simulations numériques de phénomènes anisotropes pour la Fusion par Confinement Magnétique Congrès Français de Mécanique, 2011, Besançon, 28 août - 2 septembre 2011.
95. Audrey Bonnement ; Hervé Guillard ; Boniface Nkonga ; Richard Pasquetti Modèle de type fluide volumes / éléments finis pour la simulation du plasma de bord des tokamaks CANUM 2012, May 2012, Superbesse, France.
96. Ph. Ghendrih, T. Auphan, B. Bensiali, M. Bilanceri, K. Bodi, A. Bonnement, H. Bufferand, G. Chiavassa, G. Ciraolo, R. Futtersack, H. Guillard, C. Guillemaut, Y. Marandet, A. Mentrelli, D. Moulton, A. Paredes, R. Pasquetti, E. Serre, F. Schwander, P. Tamain, Divertor imbalance and divertor density regimes for ballooned cross-field turbulence, 20th Int. Conf. on Plasma Surface Interactions, Eurogress, Aachen, Germany, May 21-25, 2012.

97. Hervé Guillard ; Maria Vittoria Salvetti, Des mathématiciens à la rescousse des lagunes méditerranéennes
Accromath, 2013, été-automne 2013, 8 (2)