

## **PRODUCTIONS SCIENTIFIQUES**

### **Articles de revue**

**1. « From free cluster to cluster assembled materials »**

P. MELINON, V. PAILLARD, V. DUPUIS, A. PEREZ, P. JENSEN, A. HOAREAU, J.P. PEREZ, J. TUAILLON, M. BROYER, J.L. VIALLE, M. PELLARIN, B. BAGUENARD, J. LERME International Journal of Modern Physics B, 9, 339-397 (1995)

**2. "Nanocrystalline Structures Prepared by Neutral Cluster Beam Deposition."**

A. PEREZ, P. MELINON, V. PAILLARD, V. DUPUIS, P. JENSEN, A. HOAREAU, J.P. PEREZ, J. TUAILLON, M. BROYER, J.L. VIALLE, M. PELLARIN, B. BAGUENARD, J. LERME,

"Clusters and Nanostructured Materials", P. Jena and S.N. Behera editors, Nova Science, p. 319-332 (1996)

**3. "Electronic and atomic structure of large covalent and metal clusters. Application to cluster assembled Materials"**

M. BROYER, M. PELLARIN, B. BAGUENARD, J. LERME, J.L. VIALLE, P. MELINON, J. TUAILLON, V. DUPUIS, B. PREVEL, A. PEREZ

in : "Cluster Assembled Materials, Ed. K. Sattler, Transtech Pub. Co. Materials Science Forum, 232, 27 (1996)

**4. "Cluster assembled materials: a novel class of nanostructured solids with original structures and properties"**

A. PEREZ, P. MELINON, V. DUPUIS, P. JENSEN, B. PREVEL, J. TUAILLON, L. BARDOTTI, C. MARTET, M. TREILLEUX, M. BROYER, M. PELLARIN, J.L. VIALLE, B. PALPANT AND J. LERME,

J. Phys. D, Special Section on Nanotechnology, Applied Physics, 30, 709 (1997).

**5. "Nanostructured materials from clusters : synthesis and properties"**

A. PEREZ, P. MELINON, V. DUPUIS, B. PREVEL, L. BARDOTTI, J. TUAILLON-COMBES, B. MASENELLI, M. TREILLEUX, M. PELLARIN, JEAN LERME, E. COTTANCIN, M. BROYER, M. JAMET, M. NEGRIER, F. TOURNUS, M. GAUDRY  
Materials Transactions, Special Issue on Nano-Metals 1, Vol 42, N°8, 1460 (2001).

**6. "Growth and properties of nanostructured films prepared by cluster deposition"**

P. JENSEN, L. BARDOTTI, N. COMBE, V. DUPUIS, P. MELINON, B. PREVEL, J. TUAILLON-COMBE, A. PEREZ.

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**7. "Magnetic nanostructures from clusters"**

A. PEREZ, V. DUPUIS, J. TUAILLON-COMBES, L. BARDOTTI, B. PREVEL, P. MELINON, M. JAMET, W. WERNSDORFER, B. BARBARA.

in "Nanoscale Materials", Eds. Luis M. Liz Marzan and Prashant V. Kamat, Kluwer Academic Pub., Dordrecht, The Netherlands, pp 371-394, (2003)

**8. "Pure and mixed magnetic clusters assembled nanostructures"**

V. DUPUIS, M. JAMET, J. TUAILLON-COMBES, L. FAVRE, S. STANESCU, M. TREILLEUX, E. BERNSTEIN, P. MELINON AND A. PEREZ.

*Review of "Recent research Developments in Magnetism and Magnetic Materials"*<sup>1</sup> (2003) 101, Transworld Research Network

**9. "Magnetic and structural properties of isolated and assembled clusters"**

J. BANSMANN, S.H. BAKER, C. BINNS, J.A. BLACKMAN, J.-P. BUCHER, J. DORANTES-DÁVILA, V. DUPUIS, L. FAVRE, D. KECHRAKOS, A. KLEIBERT *et al.* Surface Science Reports 56 (2005) 189

**10. "Functionalized cluster-assembled magnetic nanostructures for applications to high integration-density devices"**

A. PEREZ, V. DUPUIS, J. TUAILLON-COMBES, L. BARDOTTI, B. PREVEL, E. BERNSTEIN, P. MELINON, L. FAVRE, A. HANNOUR, M. JAMET  
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**11. "Bi-metallic nanomagnet embedded in matrix"**

V. DUPUIS, C. RAUFAST, S. ROHART, L. FAVRE, E. BERNSTEIN, O. BOISRON, G. GUIRAUD, A. PEREZ  
Transworld Research Network: ISBN: 81-7895-231-9, Editor: Véronique Dupuis  
Nanomagnet Embedded In Matrix (NEIM) pp 65-91 (2006)

**12. "Functional Nanostructures from clusters"** A. PEREZ, P. MELINON, V. DUPUIS, L. BARDOTTI, B. MASENELLI, F. TOURNUS, B. PREVEL, J. TUAILLON-COMBES, A. TAMION, N. BLANC, D. TAÏNOFF, M. BROYER, M. PELLARIN, N. DEL FATTI, F. VALLEE, E. COTTANCIN, J. LERME, C. BONNET, J.L. ROUSSET and M. MORFIN, Int. J. Nanotechnol., Vol. 7, Nos. 4/5/6/7/8, (2010) spécial sur les nanosciences en Rhone-Alpes.

**13. « Magnetism of low-dimension alloys »,** V. PIERRON-BOHNES, A. TAMION, F. TOURNUS and V. DUPUIS, Chapter 9 in Nanoalloys : Synthesis, Structure and Properties, Book published by Springer (2012) ISBN : 978-1-4471-4013-9, Editors D. Alloyeau, C. Mottet and C. Ricolleau

**14. "Structure and order in CoPt-type nanoalloys: from thin films to supported clusters"** P. ANDREAZZA, V. PIERRON-BOHNES, F. TOURNUS, C. ANDREAZZA-VIGNOLLE, V. DUPUIS, Surface Science Reports 70 (2015), pp. 188-258

**15. "Bottom-up strategies for the assembling of magnetic systems using nanoclusters"**

V. DUPUIS, A. HILLION, A. ROBERT, O. LOISELET, G. KHADRA, P. CAPIOD, C. ALBIN, O. BOISRON, D. LE ROY, L. BARDOTTI, F. TOURNUS, A. TAMION,  
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20<sup>th</sup> anniversary issue: Unifying Concepts for Nanoscience and Nanosystems

**16. "Anisotropic composite polymer for high magnetic force in microfluidic systems"**

DEMAN A. L., MEKKAoui S., DHUNGANA D., CHATEAUX J. F., TAMION A., DEGOUTTES J., DUPUIS V., LE ROY D.,  
Microfluidics and Nanofluidics, **23**, 15 (2019) [doi.org/10.1007/s10404-017-2008-2](https://doi.org/10.1007/s10404-017-2008-2).

17. "Nanomagnets and Nanostructured Magnetic Materials" V. DUPUIS, A. HILLION, A. ROBERT, O. LOISELET, G. KHADRA, P. CAPIOD, C. ALBIN, O. BOISRON, D. LE ROY, L. BARDOTTI, F. TOURNUS, A. TAMION, *to submit* APX (2020).

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18. "High field magnetoresistivity of the amorphous alloy Cu<sub>50</sub>Lu<sub>50</sub>"  
V.DUPUIS, J.C.OUSSET, J.M.BROTO, H.RAKOTO  
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J.C.OUSSET, J.P.ULMET, V.DUPUIS, L.BACHÈRE,  
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23. "Weak localization effects in the amorphous alloys V<sub>1-x</sub>X<sub>x</sub> (X=Si,Ge,Sn)"  
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24. "Thermal evolution of W/Si and W/C multilayers under pulsed laser heating and classical annealing"  
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25. "Characteristics and thermal behavior of W/Si multilayers with well-defined interfaces"  
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**28. "Ir/Fe superlattices : 3d pseudomorphism of Fe on (111) cfc Ir"**

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**29. "Structure et magnétisme de super-réseaux Ru/Mn et Mn/Fe/Mn/Ru préparés par MBE"**

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**30. "Raman scattering from carbon in tungsten/carbon multilayer films"**

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**31. "Unusual iron atomic packing in Fe/Ru superlattices by X-ray Absorption Spectroscopy"**

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**32. "Structure and magnetism of superlattices Ru/Mn and Mn/Fe/Mn/Ru prepared by MBE"**

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**34. "Diamond-like carbon films obtained by low energy cluster beam deposition: Evidence of a memory effect of the properties of free carbon clusters"**

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- 37. "Synthesis of diamond nanocrystallites using the low-energy cluster beam deposition: an indirect proof of small fullerene existence ?"**  
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- 39. "Magnetic properties of nanostructured iron films obtained by low energy neutral cluster beam deposition"**  
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- 40. "DC conduction in diamond-like carbon films obtained by low energy cluster beam deposition"**  
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- 42. "From free clusters to cluster assembled materials."**  
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- 46. "Structure and Magnetism of well-defined cobalt nanoparticles embedded in a niobium matrix",** M. JAMET, V. DUPUIS, P. MÉLINON, G. GUIRAUD, A. PEREZ, W. WERNSDORFER, A. TRAVERSE, B. BAGUENARD.  
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**57. “Magnetic anisotropy of embedded Co nanoparticles : influence of the surrounding matrix”** A. TAMION, C. RAUFAST, M. HILLENKAMP, E. BONET, J. JOUANGUY, B. CANUT, E. BERNSTEIN, O. BOISRON, W. WERNSDORFER and V. DUPUIS,  
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- 64. “Chemical order and size effect on the magnetic anisotropy in FePt and CoPt nanoparticles”**, S. ROHART, F. TOURNUS, V. DUPUIS  
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- 65. “Size dependent morphology of CoPt cluster films on graphite: a route to self-organisation”** F. TOURNUS, L. BARDOTTI, V. DUPUIS  
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- 66. “Spontaneous formation of size selected bimetallic nanoparticle arrays”**  
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- 68. “Efficient hysteresis loop simulations of nanoparticle assemblies beyond the uniaxial anisotropy”** A. TAMION, E. BONET, F. TOURNUS, C. RAUFAST, A. HILLION, O. GAIER, V. DUPUIS, Phys. Rev. B 85, 134430 (2012)
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- 73. “Effect of nonlinear superparamagnetic response on susceptibility curves for nanoparticle assemblies”** F. TOURNUS, A. HILLION, A. TAMION, V. DUPUIS, Phys. Rev. B 87, 174404 (2013)
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- 76. “ Mixing Patterns and Redox Properties of Iron-based Alloy Nanoparticles under Oxidation and Reduction Conditions ”** V. PAPAETHIMIOU, F. TOURNUS, A. HILLION, G. KHADRA, D. TESCHNER, A. KNOP-GERICKE, V. DUPUIS, S. ZAFEIRATOS, Chemistry of Materials 26 (4), 1553 (2014)
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**151. “Organization and magnetic properties of FePt nanoparticles deposited on graphene/Ir moiré pattern”**

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**En préparation :**

- 1. *Dépôt sous champ avec Anthony Robert***
- 2. *Épitaxie FeRh sur BTO avec Damien Le Roy***