

Ivan E. Campos-Silva

Resume of the Curriculum Vitae

Professor at the Mechanical Engineering Department of the
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I. Areas of interest

Materials Science
Surface Engineering Science
Mathematical solutions of mass transfer problems
Fractal geometry applied to surface science problems

Other scientific areas of interest

Thermochemical treatments
Physical and mechanical properties of hard coatings
Multicomponent diffusion for the formation of hard coatings in metallic materials.

II. Participation in Research and industrial projects

Participation in more than 15 projects, from which was scientific responsible in all of them.

III. Publications in the last 2 years (2007-2009)

1. **I. Campos**, G. Ramírez, U. Figueroa, J. Martínez, O. Morales, Evaluation of boron mobility on the phases FeB, Fe₂B and diffusion zone in AISI 1045 and M2 steels, Applied Surface Science

253 (2007) 3469-3475.

2. **I. Campos**, M. Islas, E. Gonzalez, P. Ponce, G. Ramírez Use of fuzzy logic for modeling the growth of Fe₂B boride layers during boronizing, *Surface Coatings and Technology* Volume 201, Issue 6, (2007) 2717-2723.
3. R. Torres, **I. Campos**, O. Bautista, G. Ramírez, J. Martínez Dimensional analysis in the growth kinetics of FeB and Fe₂B layers during the boriding process, *International Journal of Microstructure and Materials Properties* Vol. 2 No. 1 (2007) pp. 73-83.
4. **I. Campos**, M. Islas, G. Ramirez, C. VillaVelázquez, I. Mota, Growth kinetics of iron borided layers: artificial neural network and least square approaches, *Applied Surface Science*. 253 (2007) 6226-6231.
5. **I. Campos**, G. Ramírez, U. Figueroa, C. VillaVelázquez Paste boriding process: evaluation of boron mobility on borided steels, *Surface Engineering* Vol. 23 No. 3 (2007) 216-222.
6. G. Ramírez, **I. Campos**, A. Balankin, Fracture toughness of iron boride layers obtained by the paste boriding process, *Materials Science Forum*. Vol. 553 (2007) pp. 21-26.
7. **I. Campos**, G. Ramírez, A. Balankin, Self-affine patterns of boride layers, *Materials Science Forum*. Vol. 553 (2007) pp. 27-32.
8. Alexander Balankin, **Iván Campos Silva**, Omar Antonio Martinez, Orlando Susarrey Huerta, Scaling properties of randomly folded plastic sheets, *Physical Review E* 75 (2007) 051117 1-3.
9. **I. Campos**, M. Palomar-Pardavé, A. Amador, C. VillaVelázquez, J. Hadad, Corrosion behavior of boride layers evaluated by the EIS technique, *Applied Surface Science* 253 (23) (2007) 9061-9066.
10. **I. Campos-Silva**, M. Ortiz-Dominguez, C. VillaVelazquez, R. Escobar, N. Lopez, Growth kinetics of boride layers: a modified approach, *Defect and Diffusion Forum* 272 (2007) 79-86.
11. **I. Campos**, G. Ramírez, C. VillaVelazquez, U. Figueroa, G. Rodríguez Study of microcracks morphology produced by Vickers indentation on AISI 1045 borided steels, *Materials Science and Engineering A* 475 (2008) 285-292.
12. **I. Campos**, M. Farah, N. Lopez, C. VillaVelazquez, G. Rodríguez, G. Bermudez, Evaluation of the tool life and fracture toughness of cutting tools boronized by the paste boriding process, *Applied Surface Science* 254 (10) (2008) 2967-2974.
13. **I. Campos**, R. Rosas, U. Figueroa, C. VillaVelazquez, A. Meneses, A. Guevara Fracture toughness evaluation using Palmqvist crack models on AISI 1045 borided steels, *Materials Science and Engineering A* 488 (1-2) (2008) 562-568.
14. **I. Campos-Silva**, A. Balankin, A.H. Sierra, R. Escobar-Galindo, N. López-Perrusquia, D.

Morales-Matamoros Characterization of rough interfaces obtained by boriding, *Applied Surface Science*, 255 (2008) 2596-2602.

15. **I. Campos-Silva**, M. Ortiz-Domínguez, N. López-Perrusquia, R. Escobar-Galindo, O.A. Gomez-Vargas, E. Hernández-Sánchez, Determination of boron diffusion coefficients in borided tool steels, *Defect and Diffusion Forum Vols. 283-286* (2009) 681-686.

16. **I. Campos-Silva**, N. López-Perrusquia, M. Ortiz-Domínguez, U. Figueroa-López, E. Hernández-Sánchez, Measurement of fracture toughness in AISI 1018 borided steels by Vickers indentation, *Defect and Diffusion Forum Vols. 283-286* (2009) 675-680.

17. **I. Campos-Silva**, N. López-Perrusquia, M. Ortiz-Domínguez, U. Figueroa-López, O.A. Gómez-Vargas, A. Meneses-Amador, G. Rodríguez-Castro, Characterization of boride layers formed at the surface of gray cast irons, *Kovove Materialy-Metallic Materials* 47 (2) (2009) 75-81.

18. N. López-Perrusquia, **I. Campos-Silva**, J. Martínez-Trinidad, A. Avilés, E. Alvarez-Castañeda, S. Juárez-Torres, Evaluation of brittle layers obtained by boriding on AISI H13 steels, *Advanced Materials Research* 65 (2009) 47-52.

19. G. Rodríguez-Castro, **I. Campos-Silva**, J. Martínez-Trinidad, U. Figueroa-López, D. Meléndez-Morales, J. Vargas-Hernández, Effect of boriding on the mechanical properties of AISI 1045 steel, *Advanced Materials Research* 65 (2009) 63-68.

20. **I. Campos-Silva** and M. Ortíz-Domínguez, Modelling the growth kinetics of Fe₂B layers obtained by the paste boriding process in AISI 1018 steel, *International Journal of Microstructure and Materials Properties*, accepted, reference 109/08.

21. **I. Campos-Silva**, M. Ortíz-Domínguez, M. Keddám, N. López-Perrusquia, A. Carmona-Vargas, M. Elías-Espinosa, Kinetics of the formation of Fe₂B layers in gray cast iron: effects of boron concentration and boride incubation time, *Applied Surface Science* 255 (2009) 9290-9295.

22. **I. Campos-Silva**, M. Ortiz-Domínguez, H. Cimenoglu, R. Escobar-Galindo, M. Keddám, M. Elías-Espinosa, N. López-Perrusquia, A diffusion model for the growth of the Fe₂B layer in pure iron, *Surface Engineering*, accepted, reference SUR606.

23. **I. Campos-Silva**, M. Ortiz-Domínguez, N. López-Perrusquia, A. Meneses-Amador, R. Escobar-Galindo, J. Martínez-Trinidad, Characterization of AISI 4140 borided steels, *Applied Surface Science*, accepted, reference APSUSC-D-09-02233