

ISSN: 2175-9146

[The Journal](#)

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[Paper Submission](#)

[Last Issue](#)

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## Last Issue



[Editorial](#)

## Previous Issues

- [v.02 n°1: Jan. - Apr. 2010](#)  
→ [editorial](#)
- [v.01 n°2: Jul. - Dec. 2009](#)  
→ [editorial](#)
- [v.01 n°1: Jan. - Jun. 2009](#)  
→ [editorial](#)

## Abstract of Published Article

### Degradation of carbon-based materials under produced by a high enthalpy plasma jet

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### Abstract:

A stationary experiment was performed to study the degradation of carbon-based materials under immersion in a plasma jet. In the experiment, graphite target materials, and the reactive plasma jet was generated by a high enthalpy plasma jet.

macroscopic study of the material degradation, the same function of the exposure time under various temperature analysis was then carried out for the study of microscopic surface. These experiments showed that the mass proportional to the exposure time and strongly dependent on the surface. The mass erosion rate of graphite was appreciable in the carbon matrix region in C/C composite and the fiber region. In addition, the latter varied according to the flow direction. These tests indicated an excellent ablation material for rocket nozzles and heating systems of hypersonic apparatuses from aerodynamic heating.

**Keywords:**

Graphite, C/C Composite, Ablation, Plasma torch, Calorimeter



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