Suggestions for future work

In order to complement the work developed within the scope of this thesis, I give some suggestions for possible future works:

- Evaluate the gain in thermal conductivity of the laser-glazed thermal barrier coating system due to densification of the external region of the ceramic coating.

- Study the thermal shock/cycling resistance of the laser-glazed coatings.

- Evaluate the erosion resistance of coatings, both as-sprayed and laser-glazed.

- Study the mechanical properties of the coatings (microhardness, residual stresses) before and after the glazing process.

- Improve the numerical model by taking into account the issues referred at the end of the previous chapter.
List of communications

International

1. Improvement of plasma-sprayed zirconia-based thermal barrier coatings by laser glazing
C. Batista, A. Portinha, R. M. Ribeiro, V. Teixeira, C.R. Oliveira
RIVA - 5th Iberian Vacuum Meeting, Guimarães, Portugal, 18-21 September 2005, oral communication.

2. Surface modification of ceramic thermal barrier coatings by laser irradiation
RIVA - 5th Iberian Vacuum Meeting, Guimarães, Portugal, 18-21 September 2005, poster presentation.

3. Surface treatment of ceramic thermal barrier coatings using laser radiation

4. Laser Glazing of Plasma-Sprayed Thermal Barrier Coatings using CO\(_2\) and YAG lasers

5. Hot Corrosion of Laser-Glazed Plasma-Sprayed Thermal Barrier Coatings

6. Laser-glazing of plasma-sprayed thermal barrier coatings: Influence of processing parameters

7. 3-D modelling of high power laser interaction with porous ZrO\(_2\)-based coatings
8. Surface Laser-Glazing of Plasma-Sprayed Thermal Barrier Coatings
European Materials Research Society Spring Meeting – E-MRS 2004, Symposium N,
Strasbourg, France, 24-28 May 2004, poster presentation.

National

1. Improved hot corrosion response of yttria stabilized zirconia thermal barrier coatings
Jornadas do Centro de Física – 2005, Universidade do Minho, Guimarães, 14 October
2005, poster presentation.

2. Tratamento superficial de revestimentos cerâmicos por laser
5ª Jornadas do Grupo de Revestimentos Funcionais - GRF-2004, Universidade do Minho,
List of publications

