



Mês de: **Março 2010**

## SEMINÁRIO DE GEOMETRIA

Dia 16 de Abril (sexta-feira), às 16h30, na Sala B3-01

“Singular Dressing Actions on Harmonic Maps”

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### Abstract:

In this talk we show that any harmonic map  $\phi$  from a two-sphere  $S^2$  into an arbitrary compact semisimple matrix Lie group  $G$  may be reduced to a constant by using the *singular dressing actions* introduced by Bergvelt and Guest; this reduction induces a factorization of  $\phi$  into flag factors  $S^2 \rightarrow G$ , and the singular dressing actions are produced from curves of *simple factors* (rational loops having a minimum number of singularities, whose dressing action can be computed explicitly) for  $G^{\mathbb{C}}$ . A version of this result for an arbitrary inner symmetric space  $G/K$  is established. We also present some generating theorems for the rational loops of the fundamental representations of  $Sp(n)^{\mathbb{C}}$  and  $SU(n)^{\mathbb{C}}$ : in both cases the class of generators is slightly larger than the class of simple factors.

This is joint work with Nuno Correia.

Parcialmente suportado pela FCT ao abrigo do Financiamento Base 2009

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