

# Seminario de Geometría y Topología



## **Coherent systems and a Conjecture of D. C. Butler**

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**Abstract:** The kernels of evaluation maps for the sections of vector bundles on algebraic varieties have been studied over many years. In particular, a good deal is known about the stability of these kernels. The natural setting for the problem is that of coherent systems, in other words pairs consisting of a bundle (or sheaf) and a subspace of its space of sections. In a paper of 1997, published only on arXiv, D. C. Butler made a conjecture which can be roughly summarised as saying that, if  $(E, V)$  is a "general" coherent system on a general curve, then the kernel is stable. Having described the background and stated the conjecture more precisely, I will outline a proof for the case of line bundles. The final stages of this proof (due to Bhosle, Brambila-Paz and Newstead) involve wall crossing formulae for coherent systems.

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