

SEMINARIO DE GEOMETRIA ALGEBRAICA

Lunes, 24 de abril de 2017, **15:15**, Seminario 238

Charles Almeida

Universidad de Campinas

Impartirá la conferencia

Moduli of stable locally free sheaves on projective spaces

Resumen.

This is a joint work with Simone Marchesi and Rosa María Miró Roig. In [1] Maruyama proved that the rank r locally free sheaves on a projective variety X with fixed Chern classes c_1, \dots, c_r can be parametrized by a quasi-projective scheme, denoted by $\mathcal{B}_X(r, c_1, \dots, c_r)$. Since then such schemes were extensively studied, and a lot of information about the geometry (irreducibility, smoothness) of these moduli spaces when X is a curve, or a surface is known. When $\dim X = 3$, even if one consider $X = \mathbb{P}^3$, the simplest example of 3-dimensional projective scheme, the question about the number of irreducible components, or its irreducibility, remains open.

In this talk, we will shortly recall the notion of moduli spaces, and give some examples of moduli spaces on projective spaces, with the aim to motivate the study of moduli space of rank 2 stable locally free sheaves on \mathbb{P}^3 with zero first Chern classes, and small second Chern classes. For any given $a \in \mathbb{N}$, we will describe irreducible components of $\mathcal{B}(2; 0, a^2 + 1)$, and will prove that $\mathcal{B}(2; 0, 5)$ has exactly 3 irreducible components.

The results presented in this talk can be found in the preprint [2].

Referencias

- [1] M. Maruyama, *Moduli of stable sheaves, I*, J. Math. Kyoto Univ. **17** (1977), 91–126.
- [2] C. Almeida, M. Jardim, A. Tikhomirov, S. Tikhomirov, *New moduli components of rank 2 bundles on projective space*, **2017**, arXiv:1702.06520