Dimension two Holomorphic Distributions

[Julio Leo Fonseca Quispe]

julioleofq@gmail.com

Abstract:

The objective of this talk is to study locally free holomorphic distributions of dimension two on $\mathbb{P}^4$ whose singular scheme has pure dimension. Our first result is to classify such distributions of degree at most 2. We will see that the corresponding sheaves will be split. Subsequently, we will talk about Horrocks-Munford holomorphic distributions, that is, dimension two distributions on $\mathbb{P}^4$ whose conormal sheaf is not split, describing the numerical invariants of their singular scheme that are smooth and connected. Such distributions are not integrable.

Joint work with Mauricio Corrêa Jr. and Omegar Calvo Andrade.

References

[1] O. Calvo–Andrade; M. Corrêa; M. Jardim. *Codimension One Holomorphic Distributions on the Projective three space*. International Mathematics Research Notices. Vol. 2020, 23, pg. 9011-9074. 2020.

[2] G. Horrocks; D. Mumford. *A rank* 2 *vector bundle on* $\mathbb{P}^4$ *with* $15,000$ *symmetries*. Topology **12** (1973), 63?81. 14F05