

Math 430/505 Complex Geometry – Assignments

Fall 2010, Ali Sinan Sertöz

- 1) Show that $\mathbb{P}_{\mathbb{C}}^n$ is compact.
- 2) Show, using Plücker coordinate approach or otherwise, that the Grassmannian spaces are compact.
- 3) Show that the usual coordinate chart maps on Grassmannians are orientation preserving, using the basic definitions.
- 4) Construct a presheaf which is not a sheaf, on some topological space of your choice.
- 5) Define the pullback and push forwards of a sheaf and show how to sheafify them.