Pablo Solis* (sopablo@stanford.edu). Monads on $\mathbb{P}^1 \times \mathbb{P}^1$ and Natural Cohomology. Preliminary report.

A vector bundle has natural cohomology when its cohomology is concentrated in a single degree for every twist. On projective space vector bundles with natural cohomology appear as the extremal rays in polyhedral cone of cohomology tables; this is the geometric analogue of Boij-Soderberg theory. Eisenbud and Schreyer considered the analogous theory in the bi-graded setting of $\mathbb{P}^1 \times \mathbb{P}^1$ where they conjectured that vector bundles with natural cohomology should exist with prescribed cohomology. In this talk I’ll sketch a proof of this conjecture. (Received August 27, 2018)