Rank two Vector bundles with first cohomology module generated by two elements and applications

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We present a family of monads whose cohomology are μ-stable vector bundles of small rank on $\mathbb{P}^3$, whose first module of cohomology is generated by two elements, then study the geometrical properties of this family on the moduli space of stable vector bundles over $\mathbb{P}^3$. We use these results to show that the moduli space of stable rank two vector bundles with zero first Chern class and five second Chern class has exactly 3 irreducible components.

Joint work with Marcos Jardim (University of Campinas).