

A simple proof of Tyurin's babylonian tower theorem

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Using the method of Coand\u{a} and Trautmann (2006), we give a simple proof of the following theorem due to Tyurin (1976) in the smooth case: if a vector bundle E on a c -codimensional locally Cohen-Macaulay closed subscheme X of the projective space P^n extends to a vector bundle F on a similar closed subscheme Y of P^N , for every $N > n$, then E is the restriction to X of a direct sum of line bundles on P^n . Using the same method, we also provide a proof of the Babylonian tower theorem for locally complete intersection subschemes of projective spaces.

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