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A REMARK TO THE
"CHERN CLASSES OF BUNDLES OF RANK TWO ON P^5"

In [1] we have studied the necessary conditions on coefficients $c_i \in Z$, for existence of a 2-dimensional vector bundle E on P^5 with Chern classes $c_i(E) = c_i$. The list of this numbers is there not complete: in (1) the cases $m = 3, 8, 11$ are omitted. The former calculations implies that the main theorem should be the following:

THEOREM 1. *The Chern polynomial of any normalized 2-bundle on P^5 is of the form*:
  1. $(12n + m)t^2 + 1$, $m = 0, 3, 8, 11$,
  2. $6nt^2 + t + 1$,
  3. $(6n + 10)t^2 + t + 1$.
Moreover such polynomial is reducible if and only if:
  1. $n = -3k^2$, $m = 0$,
  2. $n = -k(3k - 1)/2$ or $n = -k(3k + 1)/2$,
  3. $n = -(3k^2 + 3k + 4)/2$.

□

References

[1]   J. Samsonowicz, *Chern classes of bundles of rank two on P^5*, Demonstratio Math. 26 (1993), 529–533.

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