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On the order of speciality of a simple, special, and complete linear system on a curve.

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Summary: The order of speciality of an ample invertible sheaf L on a curve is the least integer m so that $L^{\otimes m}$ is nonspecial. There is a reasonable upper bound of the order of speciality for a simple invertible sheaf in terms of its degree and projective dimension. We study the case where it reaches the upper bound. Moreover, we formulate Castelnuovo's genus bound involving the order of speciality.

MSC:

[14H51](#) Special divisors on curves (gonality, Brill-Noether theory)

[14H45](#) Special algebraic curves and curves of low genus

Keywords:

[Castelnuovo's genus bound](#)

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