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**Jeaman Ahn\*** (ajman@kias.re.kr), KIAS 207-43, Cheongnyangni 2-dong, Dongdaemun-gu, 130-722 Seoul, South Korea. *The degree lexicographic generic initial ideal of a smooth integral curve in projective space.*

Let  $I$  be the defining ideal of a non-degenerate smooth integral curve of degree  $d$  and of genus  $g$  in  $\mathbb{P}^n$  where  $n \geq 3$ . We show that the degree lexicographic generic initial ideal of  $I$  has Castelnuovo-Mumford regularity  $1 + \binom{d-1}{2} - g$  with the exception of two cases: (1) a rational normal curve in  $\mathbb{P}^3$  and (2) an elliptic curve of degree 4 in  $\mathbb{P}^3$ , where regularities are 3 and 4 respectively. Additionally we show that the regularity of degree lexicographic generic initial ideal of a non-degenerate integral scheme  $X \subset \mathbb{P}^n$  does not change by an isomorphic projection of  $X$  from a general point. (Received February 13, 2006)