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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)