# The $\Gamma$-polynomial of a knot and its applications

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**Abstract.** The $\Gamma$-polynomial is an invariant of an oriented link in the 3-sphere, which is contained in both the HOMFLYPT and Kauffman polynomials as their common zeroth coefficient polynomial. As applications of the $\Gamma$-polynomial, I will talk about the following three topics:
(1) On the arc index of cable knots (joint with Hwa Jeong Lee, KAIST)
(2) On the braid index of Kanenobu knots
(3) On the arc index of Kanenobu knots (joint with Hwa Jeong Lee, KAIST)