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## Extraction of the $\Lambda$ Polarizing Fragmentation Function from Belle $e^+e^-$ data

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We present a phenomenological analysis of the experimental data from Belle Collaboration for the transverse polarization of Lambda's measured in  $e^+e^-$  annihilation processes, both for the case of associated and inclusive (plus a jet) production. We extract for the first time, within a TMD approach, the quark polarizing fragmentation function for a Lambda hyperon, a distribution giving the probability that an unpolarized quark fragments into a transversely polarized spin-1/2 hadron. Similar analyses in  $eP \rightarrow e\Lambda + X$  processes at the EIC will be crucial for understanding the universality and evolution properties of the TMD polarizing FF.

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