Topology Analysis *†‡

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†This package is implemented referring to a program called Topo, which is first developed by Prof. Shuxian Du from Zhengzhou University and later extended and maintained by Prof. Gang Li from Institute of High Energy Physics, Chinese Academy of Sciences. The Topo program has been widely used by colleagues in BESIII collaboration. Several years ago, when I was a Ph.D. student working on the BESIII experiment, I learned the idea of topology analysis and a lot of programming techniques from the Topo program. So, I really appreciate the original works of Prof. Du and Prof. Li very much. To meet my own needs and to practice developing analysis tools with C++, ROOT, and LaTeX, I wrote the package from scratch. At that time, the package functioned well but was relatively simple. At the end of 2017, my co-supervisor, Prof. Chengping Shen reminded me that it could be a useful tool for the Belle II experiment as well. So, I revised and extended it, making it more well-rounded and suitable for the Belle II experiment. Here, I would like to thank Prof. Du and Prof. Li for their original works, and Prof. Shen for his suggestion, guidance, support, and encouragement.

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Table 1: Decay trees and their respective final states.

rowNo	decay tree	decay final state	iDcyTr	nEtr	nCEtr
1	$\Upsilon(4S) \to B^0\bar{B}^0, B^0 \to \pi^0 J/\psi, \bar{B}^0 \to \nu_e\bar{\nu}_e\bar{K}^0, J/\psi \to \mu^+\mu^-, \bar{K}^0 \to K_S^0,$ $K_S^0 \to \pi^+\pi^-$	$\nu_e\bar{\nu}_e\mu^+\mu^-\pi^0\pi^+\pi^-$	0	1	1