

$$I_4^{\{D=4-2\epsilon\}}(0, m^2, 0, m^2, 0; s_{12}, s_{23}; 0, 0, m^2, m^2)$$

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$$\begin{aligned} & I_4^{\{D=4-2\epsilon\}}(0, m^2, 0, m^2; s_{12}, s_{23}; 0, 0, m^2, m^2) \\ &= \frac{1}{(m^2 - s_{23})(m^2 - s_{12})} \left(\frac{\mu^2}{m^2}\right)^\epsilon \left[ \frac{1}{\epsilon^2} - \frac{1}{\epsilon} \left[ \ln\left(\frac{m^2 - s_{23}}{m^2}\right) + \ln\left(\frac{m^2 - s_{12}}{m^2}\right) \right] \right. \\ &+ \left. 2 \ln\left(\frac{m^2 - s_{23}}{m^2}\right) \ln\left(\frac{m^2 - s_{12}}{m^2}\right) - \frac{\pi^2}{2} \right] + \mathcal{O}(\epsilon) \end{aligned}$$

See the file on [notation](#). See also Eq. (A5) of ref. [?] (note differing definition of  $\epsilon$ ) or Eq. (6.70) of ref. [?] for an identical expression. Information about terms of order  $\epsilon$  and  $\epsilon^2$  can be obtained in ref. [?].

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## References

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- [4] J. G. Korner, Z. Merebashvili and M. Rogal, Phys. Rev. D **71**, 054028 (2005) [[arXiv:hep-ph/0412088](#)]  
see also [for a report on the formula in this paper in Mathematica Format](#)