

Dealing with Feynman
diagrams.

Lemma 3. With an extra variable λ , $Z_\lambda := \log[\lambda F : \mathfrak{e}^P]_B$ satisfies
and is determined by the following PDE / IVP:

$$Z_0 = P \quad \text{and} \quad \partial_\lambda Z_\lambda = \frac{1}{2} \sum_{i,j \in B} F_{ij} \left(\partial_{z_i} \partial_{z_j} Z_\lambda + (\partial_{z_i} Z_\lambda)(\partial_{z_j} Z_\lambda) \right).$$